

# FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

Tuesday May 15 1984

French state groups pursue U.S. joint ventures, Page 7

Arabia	Sch. 16	Indonesia	Rp 2500	France	Fr 125
Bahamas	DM 0.650	Italy	Li 1100	Germany	DM 6.00
Belgium	Fr 20	Japan	Y 100	Hong Kong	Hk 5.00
Canada	C\$ 1.00	South Korea	W 100	India	Rs 100
Ceylon	Rs 100	Taiwan	Nt 100	Indonesia	Rp 2500
Denmark	Dkr 7.25	Thailand	Bt 100	Japan	Y 100
Egypt	E£ 1.00	West Germany	DM 6.00	South Korea	W 100
Finland	Fmk 5.00	Malaysia	RM 4.25	Taiwan	Nt 100
France	Fr 100	Mexico	P 200	Thailand	Bt 100
Germany	DM 6.00	Netherlands	fl 2.50	Turkey	L 1.50
Greece	Dr 100	Norway	Nkr 5.00	U.A.E.	Dir 6.50
Hong Kong	Hk 5.00	Philippines	P 200	U.S.A.	\$ 1.00
India	Rs 100	Singapore	S\$ 1.00		

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## NEWS SUMMARY

### GENERAL

#### Soviets to increase German missiles

The Soviet Union announced that it would be sending more medium-range missiles into East Germany to strengthen moves started last autumn to counter the arrival of U.S. missiles in Western Europe. News agency Tass said future deployments would be "strictly within the limits necessary for maintaining the balance of forces and neutralising the concrete threat against us and our allies."

In Washington, U.S. President Ronald Reagan said that to falter now in the U.S. MX inter-continental missile programme would reward Moscow for refusing to negotiate, and cast doubt on the solidarity of the Western allies.

He pointed to the comprehensive Soviet programme for large amounts of new weapons comparable to the MX. Earlier story, Page 6.

#### Big poll turnout

Early indications showed that the opposition was capturing more votes than expected in the Philippines general election, but that president Ferdinand Marcos would still succeed. Turnout in Manila was said to be between 80 and 90 per cent. Page 6.

#### 'No Games reprise'

Soviet Olympic president Marat Gramov said in Moscow that the decision not to compete at Los Angeles was irrevocable. International Olympic president Juan Samaranch left for Manila, having received no reply from Moscow to his request for talks. In Los Angeles, Games organiser Peter Ueberroth rejected Soviet complaints as invalid.

#### Beirut pledge

New Lebanon Premier Rashid Karuni pledged himself to try to end the fighting in Beirut, where yesterday's clashes between Christian and Muslim forces resulted in 32 people being killed.

#### Punjab police shot

Two police were shot dead and 40 people arrested as violence flared again in the Punjab, where six towns were put under curfew. Page 6.

#### Refinery battle

Four men suspected of attacking with rockets the Mohil refinery in Durban, died in a four-hour gun battle with police. Three others died in a paint room that caught fire in a paint factory. The banned South African National Congress claimed responsibility for the attack.

#### Launch blown up

A new Basque group, Ataska, claimed responsibility for sinking a Spanish navy launch with a bomb at Fuerteventura. One seaman was killed. Page 3.

#### Athens explosion

About 80 people were injured by an explosion in an office and shop building in central Athens. Police suspected a bomb, but decided it was caused by bottled gas.

#### Poles escape

Seven Poles seeking asylum flew to Sweden in a stolen sports aircraft. Polish briefing for Page 3.

#### Moon appeal refused

The U.S. Supreme Court refused to review the tax fraud conviction of the Rev Sun Myung Moon, founder of the World Unification Church. He had been sentenced to 18 months' jail and fined \$25,000.

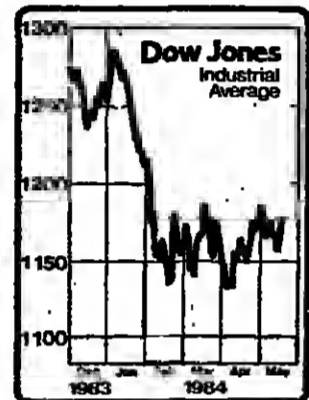
### BUSINESS

#### Tokyo index tumbles 270.53

TOKYO: Nikkei Dow index dropped 270.53, second largest one-day loss on record, to 10,863.34, mostly on small-lot selling. Stock Exchange index fell 20.37 to 828. Report, Page 33. Leading prices, other exchanges, Page 36.

LONDON: FT Industrial Ordinary index rose by 3 points to 674. Government securities showed small falls. Report, Page 37. FT Share Information Service, Pages 38, 39.

WALL STREET: Dow Jones Industrial Average closed down 6.07 at 1,151.07. Report, Page 33. Full Share Prices, Page 34-36.



DOLLAR was volatile on foreign exchanges, falling to DM 2.757 (from Friday's DM 2.7715), FF 8.485 (FF 8.515), and SwFr 2.2785 (SwFr 2.2875), and improving to Y231.25 (Y230.25). Its Bank of England trade weighting, struck before the close, was unchanged at £31.7. In New York it was DM 2.7487, SwFr 2.2777, FF 8.45, Y231.25, Page 43.

STERLING rose 30 points to close at \$1.388, and to Y321 (Y310), but it eased to DM 3.8275 (DM 3.84), FF 11.7525 (FF 11.79), and SwFr 3.165 (SwFr 3.171). Its trade weighting was up from 80 to 80.1. In New York it was \$1.3895, Page 43.

GOLD rose \$0.25 in London to \$373. In Frankfurt it was \$0.25 down to \$372.5, and in Zurich it rose \$0.5 to \$372.75, Page 42.

DENMARK'S first-quarter balance of payments current accounts deficit was 13.1 per cent up at Dkr 5.8bn (\$572m), Page 5.

FIAT, holding company of Italy's biggest private group, improved net profits by 92.8 per cent last year at L244bn (\$125m) and plans a L675bn rights issue — a record for the country. Page 21.

GENERAL DYNAMICS of the U.S. and Turkish state aircraft group Tassas have signed a \$150m offset agreement to make aircraft spare parts in Turkey for export. Page 7.

SALENVEST, Sweden's biggest shipping group, is to raise at least Skr 180m (\$22.5m) by hiving-off part of its dry cargo operation and selling a stake to the public. Page 21.

BERLINER BANK, owned by West Berlin, is to have a major flotation on the West German market as a first step towards privatisation. Page 20.

BTR, the holding company that last year bought Thomas Tilling in Britain's second largest takeover, says profits are running 50 per cent higher than last year, and is planning a major acquisition, preferably in the U.S. Page 26.

The editorial content of today's international edition has been selected because of continuing industrial action by IG Druck und Papier at Frankfurter Societäts-Druckerei, where the edition is printed. This prevents the publication of late-breaking news, the final Wall Street report and closing U.S. over-the-counter and Canadian share prices.

## RECORD FACILITY TO AVERT CRISIS

### U.S. banks agree \$4.5bn standby for Conti Illinois

BY WILLIAM HALL IN NEW YORK

THE 16 biggest banks in the U.S. have acted swiftly to avert the major crisis of confidence which has arisen over the financial position of Continental Illinois, the eighth biggest U.S. bank, and put together a \$4.5bn standby facility for the Chicago bank.

The standby facility, the largest of its kind ever to be launched for a major international bank, follows a week of rumours which have made it increasingly difficult for Continental Illinois to fund itself in both the domestic and international money markets.

Mr David Taylor, chairman and chief executive of Continental Illinois, announced the "major supportive action" for his institution shortly after 1.00 pm eastern daylight time yesterday. The syndicate of banks, which is understood to have been informally arranged by Morgan Guaranty, agreed to put up the \$4.5bn to "ensure that Continental Illinois funding requirements continue to be met in a prompt and orderly manner."

Mr Taylor, who only took over as chairman three weeks ago follow-



Mr David G. Taylor

ing the early retirement of his predecessor, Mr Roger Anderson, said that he hoped "this strong action will facilitate the restoration of confidence in Continental Illinois."

The standby facility did not stop Standard & Poor's, the credit rating agency, from lowering its ratings on debt obligations of Continental Illinois and its subsidiaries.

Ratings on senior debt are lowered to Triple B from A-minus on preferred stock, to Double B from Triple B-plus and on Commercial Paper to A to A1.

The announcement of the massive standby facility for Continental Illinois was arranged over the weekend after several days of rumours which had made it increasingly difficult for the bank to operate normally in the money markets.

On Thursday the U.S. Comptroller of the Currency took the unprecedented action of stating publicly that he was not aware of "any significant changes in the bank's operations as reflected in its published financial statements that would serve as a basis for these rumours."

Continental Illinois also stated on several occasions last week that the rumours circulating about the possible bankruptcy, merger or acquisition of Continental Illinois had no basis in fact and should never have been fuelled by irresponsible wire service reports.

Continued on Page 20

## Reagan avoids criticism of Fed

By Paul Taylor in New York

PRESIDENT Ronald Reagan yesterday backed away from recent criticism of the Federal Reserve Board by members of his Administration, saying that inflationary fears were responsible for high interest rates and suggesting that recent weakness in the growth of the money supply could be "inadvertent."

Questioned about whether the Fed was responsible for high interest rates, he said: "You've just asked a touchy one." He added: "I think that one of the reasons for the interest rates is the lack of confidence out there, that we do not have inflation under control."

Scrupulously avoiding even a hint of criticism of the Central Bank, Mr Reagan said: "Now I have to say also on behalf of the Fed, we must recognize that the tools are not that accurate that they have to work with."

Asked if he was backing off from Treasury Secretary Mr Donald Regan's attacks on the Fed last week, Mr Reagan said: "I think that was what Secretary Regan was also trying to say."

The President's comments follow a widening split in the Administration between Mr Regan and Mr Martin Feldstein, chairman of the Council of Economic Advisers, about Fed policy which has contributed to a slump in bond prices on Wall Street.

Yesterday bond prices were marked sharply lower in highly volatile and thin early trading. Retail investors, stung by interest rate rises, steered clear of the market — apparently to further attempts by some professionals to lighten their portfolios and minimise potential trading losses.

At one point the new 13 1/2 per cent Treasury Long Bond auctioned last week as part of a package of \$16.5bn government paper was marked down in price by almost three full points.

By lunchtime, however, the new 30-year bond had recouped some of its earlier losses and was quoted at 97 1/2%, a decline of about 1/2% since the Friday close and 2% since the \$4.75bn issue was auctioned last Thursday.

At the lunchtime price yesterday the new 30-year bond was yielding 13.60 per cent compared to an average yield of 13.43 per cent at the auction.

The old 12 per cent Treasury

Continued on Page 20

Editorial comment, Page 18; Wall Street report, Page 33

## CGT widens dispute over Citroën cuts

BY PAUL BETTS IN PARIS

WORKERS from the Communist-led CGT union occupied two more Citroën car plants yesterday as the conflict widened over the private French car company's plans to reduce its workforce by 13 per cent in France this year.

The occupation of the plants at Levallois and Nanterre, both near Paris, represents a direct challenge by the Communist party against the economic and industrial policies of President Francois Mitterrand, socialist leader of the coalition Government.

At Nanterre a few violent incidents between workers were reported by the unions, but the situation at Citroën's Aulnay sous Bois plant, also near Paris, remained calm.

Production at Aulnay, the first plant to be occupied by CGT workers, has been halted since last Friday.

All the parties involved in the potential explosive dispute appeared to be trying to find a way of avoiding a repeat of the violent clashes which occurred during the Peugeot group's Talbot plant at Poissy at the beginning of the year.

The Peugeot group, which owns Citroën and which recently reported a FF 2.5bn (\$294m) loss for 1983, has taken legal action against the union to have its Aulnay plant cleared. The magistrate is due to

announce his decision today, but it is likely that all the parties will try to avoid sending in riot police to clear the plant by force.

In an attempt to defuse the conflict, M Pierre Beregevois, the Social Affairs Minister, is due to meet representatives of the company and the unions today and tomorrow. The CGT has said it would continue the occupations until negotiations started between the union, the company and the Government.

But the pro-Communist union has also said it rejects Peugeot's plans to introduce compulsory redundancies at Citroën of 2,000 to 3,000 people out of a total of 6,000 job cuts.

The pro-Communist union, which was badly outmanoeuvred by its rival socialist CPDT union during the recent Talbot conflict, appears to be seeking to restore its credibility among its rank and file in the car industry with its theatrical and well-orchestrated action at Citroën.

Beyond the Citroën restructuring, the unions face a whole series of other serious labour situations in the French motor industry with the state Renault car group and the private Michelin tyre company also recently announcing sizeable workforce reductions. Moreover, the unions have also been shaken by the left-wing Government's severe steel and coal industry restructuring programmes.

## Creusot-Loire given time to plan rescue

BY DAVID HOUSEGO IN PARIS

CREUSOT-LOIRE, the French engineering group which has sought protection from its creditors, yesterday was granted a two-month debt moratorium under French bankruptcy law.

The formal decision, announced by the Paris tribunal of commerce, gives the group until July 13 to work out a rescue plan in collaboration with three legal officers and two experts named by the court.

The tribunal asked that the plan be made available within a month.

Creusot-Loire applied for relief from its creditors on April 25 after the Government refused its request for a FF 2 to 2.5bn debt consolidation as a way of replenishing its exhausted capital. It was the first time that a French Govern-

ment had declined to bail out such a major French company of international repute, which made the case an important test of the Government's industrial policy.

It is hoped that the judicial procedures will provide a fresh opportunity for talks with the Government and the banks in order to maintain the integrity of the company. Creusot-Loire, which depends on the state for about 40 per cent of its turnover, argues that it would be industrial folly to break up a group which forms a coherent entity.

Creusot-Loire last year made losses of FF 1.8bn and this year expects a further deficit because of a downturn in the capital goods market.

## IG Metall strikes may shut German car plants

BY RUPERT CORNWELL IN BONN

WEST GERMAN metalworkers' first serious strikes hit deep yesterday. BMW, the leading car maker, announced that it would begin closing four key plants from Thursday because of the shortage of component parts.

BMW's reaction came only 12 hours after strikes by 13,000 members of the IG Metall engineering union began as planned at 14 component factories in the northern Baden-Württemberg region, around Stuttgart.

Shortly afterwards, the prospects of more widespread disruption in industry led to a decision by IG Metall to carry out similar strikes in the industrial state of Hesse around Frankfurt from next Monday, in support of its demand for a 35-hour working week.

Yesterday's stoppages began in the early hours of the morning, as the first shift workers reported to the carefully chosen plants, which included two of the Robert Bosch components group.

The immediate repercussions not only viciated the union's proclaimed strategy of "pinpricks which will hurt", but seem to confirm fears that well-judged selective action by IG Metall could rapidly escalate into a level of disruption which has not been seen for many years in West Germany.

BMW, which last year lifted output 11 per cent to 421,000 units and is working to full capacity, said that initially only final assembly workers would be affected at the four plants in Munich, Dingolfing, Landshut and Berlin.

But, it warned, the longer the strike continued, the wider the effects would be felt. The lost production would hit its share of the market, and could jeopardise existing plans to create new jobs this year.

Spokesmen for other big West German motor groups, including Daimler-Benz and Opel, indicated last night that they will also be seriously hit by component shortages in a few days.

Both the union and the engineering employers yesterday professed themselves ready for fresh talks again, but the two sides still seem as far apart as ever on the basic issue of a 35-hour cut in the present 40-hour week.

Frankfurt share prices drop, Page 33

## Attacks on Gulf tankers bring increase in war risk premiums

BY RICHARD JOHNS IN LONDON

WAR RISK premiums on shipping to the Gulf were increased yesterday as Iraq continued to intensify its missile attacks on vessels lifting Iranian oil and as Iran apparently retaliated against Arab tanker traffic. Oil prices on the spot market also rose.

A second Kuwaiti-owned tanker, the Bahra, was hit yesterday by an unidentified aircraft outside the exclusion zone declared by Iraq only 30 hours after the Umm Casbah had suffered a similar fate.

Mr Abdel Fattah al Badr, chairman of the Kuwait Oil Tanker Company, said that the Bahra had been struck early yesterday afternoon by two rockets while it was en route for Kuwait to load a shipment of crude oil. One rocket had hit the starboard side, punching a 5.25 sqm hole in the ship; the other damaged the command room and officers' accommodation quarters.

A fire was brought quickly under control and only two members of the crew suffered "minor injuries."

There were fears also that the Raw al Zouar, a 28,000 dwt KOTC product tanker carrying a cargo of naphtha had been attacked on Sunday. But it was not confirmed as a casualty.

But at the Kuwaiti investigation into the 55,450-ton Umm Casbah, damaged in similar circumstances early on Sunday, speculation grew that Iran was using its depleted air force for selective strikes on Arab vessels.

Iraq denied responsibility for the attack on the Umm Casbah, but yesterday issued a communique saying its aircraft had hit "two large naval targets" south of the main Iranian oil terminal of Kharg Island.

In the area, the 69,489 dwt Tabriz, a ship belonging to National Iranian Tanker Company, and the 61,928 dwt Esperanza II, registered in Panama but believed to be Greek-owned, were reported to be on fire. The fate of the vessels, which are

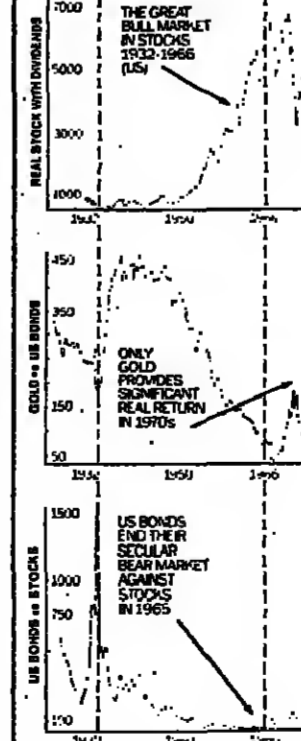
near where the Saudi-owned Al Ahoud was hit last week, remained unclear.

Following four more attacks on shipping, the London bull war risk committee is understood to have decided upon a rise in the rate for ships bound for Iran's Kharg Island and Bushire terminals to 3 per cent from 2 per cent for seven-day voyages on the basis of 48 hour's notice.

For 14-day sailings within the Gulf to other destinations it has been doubled to 0.75 per cent. For cargo insurance in the war zone, which is negotiated for individual voyages, rates were reported yesterday to have edged up to 0.15 per cent, about twice as much as a week ago.

The escalation of the Gulf war was responsible for a continued strengthening of oil prices on the spot market. Traders reported a buyer-seller rate for Brent Blend of \$29.45-\$29.75 per barrel, up 15 cents on the level of last Friday.

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EUROPEAN NEWS

Bonn may have to drop tax amnesty Bill

BY RUPERT CORNWELL IN BONN

THE West German Government was last night being propelled towards ignominiously dropping its unloved scheme for a tax evasion amnesty...

Sunday, is only due to take a final decision tomorrow. But there appears little hope that Herr Hans Dietrich Genscher, the FDP leader and Foreign Minister, can resist pressure on him from the party's MPs and rank-and-file to make an embarrassing about-face.

This became clear yesterday following the massive resistance to the draft amnesty Bill, scheduled to go before Parliament on May 24, within the ranks of the Free Democrats (FDP), the junior coalition partners.

So far nothing is official. Herr Helmut Kohl, the Chancellor, reaffirmed yesterday that he still backed the plan, while the FDP leadership, after a tense but inconclusive meeting on

ing a "realistic" view of the mood in his party. It was up to its members to decide according to their consciences. If, the FDP does break ranks, there would be scant chance of credible passage for the Bill. The public mood is unmistakably against the idea, while the Social Democrat (SPD) opposition has warned that it would take the Bill, if passed, to the Constitutional Court.

It is also threatening to seek a provisional parliamentary order barring 17 MPs, who allegedly would stand to benefit from the amnesty, from voting in any debate. Even leaving that possibility aside, the CDU/CSU union would still need at least a hand-

ful of FDP votes to secure the thinnest of parliamentary majorities. Although a government spokesman last night would only say that the Bill's fate would depend on discussions within the coalition, the main aim now is to limit the damage. But that may not be easy. Herr Franz Josef Strauss, the CSU leader whose bete noire the FDP has long been, is already making capital out of this new proof of the party's "unreliability".

Meanwhile, Herr Genscher's ride at next month's FDP congress in Muenster is likely to be rougher than ever. Although his position as leader is not at risk, he seems bound to face

powerful criticism that his error of judgment over the amnesty has compounded the party's difficulties after a run of poor domestic election results and ahead of the European Parliament vote on June 17, when it will be fighting to clear the vital 5 per cent hurdle.

Most important of all, the amnesty row risks dealing a blow to the personal relationship between Herr Kohl and Herr Genscher which is crucial for the smooth functioning of the coalition. The FDP rebellion comes only a week after the Chancellor, not entirely without difficulty, secured backing for the scheme from his own party congress in Stuttgart.

Ban on two rheumatism drugs sought

By Carla Rapoport

EUROPE'S consumers' organisations have called for a Community-wide ban on two rheumatism drugs which are alleged to cause serious side-effects.

At the same time, the developer and main manufacturer of the drugs, Ciba-Geigy, has made an unprecedented attack against the international consumer movement, claiming that it aims to "overturn the social structure" of Europe.

The Brussels-based European Bureau of Consumers' Unions has written to Mr Karl-Heinz Narjes, European Commissioner in charge of Consumer Affairs, asking him to forbid the use of anti-rheumatism drugs, phenylbutazone and oxyphenbutazone.

Britain's Committee on Safety of Medicines recommended in March that oxyphenbutazone be banned in the UK and that the second drug be placed under severe restrictions.

Ciba-Geigy has since said that it will contest the recommendation. The drugs are best known under their trade names Butazolidin and Fanderil. They have been in use since the 1960s.

Dr Louis von Planta, Ciba-Geigy's chairman, took the unusual step of speaking out against consumer organisations at the company's annual meeting in Basle recently.

Although not mentioning the latest moves against Ciba's rheumatism drugs, Dr Planta said: "The tactics of pressure groups are to use one-sided or even falsified presentations of concrete incidents or facts as a means of discrediting the multinational corporations and diminishing their credibility."

He specifically criticised international organisations concerned with consumer protection, the environment, and the Third World.

"Factual discussion with such groups is scarcely possible, since their criticism is often only a means to their political ends and factual discussion is the last thing they are interested in," claimed Dr Planta.

The recent campaign against Ciba-Geigy's rheumatism drugs was launched by consumer groups in the U.S. and

EEC will consider joint action against terrorism

BY JOHN WYLES IN BRUSSELS

BRITAIN YESTERDAY persuaded its EEC partners to consider joint action against international terrorism following last month's shootings in London outside the Libyan Peoples' Bureau.

The initiative at a meeting of Community foreign ministers will be followed by an attempt to mobilise firmer action against state-sponsored terrorism at the world economic summit in London on June 7-8.

But it was not clear yesterday how much support there is in the EEC for combined action. Preliminary exchanges at official level have revealed marked reluctance in other Community capitals to consider revising the Vienna Convention which governs the status and privileges of diplomats.

Sir Geoffrey Howe, Britain's Foreign Secretary, said that his colleagues recognised that the terrorist problem "will not be solved by a patchwork of national measures, it does call for wider consideration." EEC governments owed it to their

peoples to seek ways of checking terrorism.

Yesterday's meeting was one of the first for several months at which the issue of curbing Britain's payments to the EEC budget did not feature. Sir Geoffrey confirmed afterwards that the final solution would next be sought at the EEC summit at Fontainebleau on June 22-23.

Bilateral meetings between governments will continue to hammer away at the remaining controversial and difficult details. However, the imminence of the European elections from June 15-17 has persuaded all governments that the political pitfalls are too great to grapple again with the problem beforehand.

Ministers did give a reserved, and in some cases very critical, reaction to the Commission's proposals to raise an Ecu 2.33bn (£1.95bn) loan from member governments to cover this year's unprecedented budget deficit. They agreed to look for further economies in this year's expenditure before taking any final decision.

Fund aims to buy out ageing French bosses

BY DAVID MARSH IN PARIS

FRENCH COMPANY bosses are getting progressively older, more tired and more worried about the future. To try to inject more red blood corpuscles into the country's corporate arteries, a Government-backed scheme of finance was launched yesterday to enable elderly chairmen to move out of company hot seats earlier to make way for younger men.

The scheme is being put together by the Credit d'Equipe des Petites et Moyennes Entreprises (CEPME), the national financing body for small and medium companies. It intends

especially to support corporate management buy-outs and provide other means for family-owned enterprises to survive the often traumatic shock of the retirement or death of a founding chairman.

France's estimated 22,000 small and medium industrial companies (with between 10 and 499 employees) form the traditional backbone of France's corporate sector. But roughly half their chairmen are aged over 50—and are less growth-oriented and more cautious about stepping up investments and borrowing than younger bosses, according to a CEPME

survey. With about three-quarters of France's small and medium businesses family-owned, the CEPME says the "generation crisis" in the boardroom can lead to economic damage on a national scale if chairmen find insufficient or unsuitable heirs to take over their business.

About 10 per cent of French corporate bankruptcies are reckoned to be caused by transition difficulties after the patron dies, retires or changes job. The scheme aims to channel around FFr 400m (£34m) a year in a mixture of subsidised loans

and equity injections into companies facing problems of succession. The funds will allow around 300 or 400 problem cases to be treated in a full year, according to M Pierre Sarrazin, the CEPME official who will become chairman of a new financing subsidiary called Avenir Enterprises.

The venture comes just six weeks after M Jacques D'ors, the Finance Minister, presented a range of government proposals for tax concessions and other financial help to boost risk capital ventures, management buy-outs and business start-ups in France.

Weather threat to Ireland's milk production

By Brendan Keenan in Dublin

IRISH FARMERS are praying for an end to the fine weather which help them exploit the country's hard-won increase in its milk quota this year.

Ireland gained approval from the EEC to increase production by 4.5 per cent this year only after Prime Minister Garret FitzGerald walked out of the Community summit last March.

Most Irish milk is produced from grass in the summer months. In fact, the relatively unsophisticated nature of the industry was one of the arguments advanced for Ireland's special treatment. Weather conditions can make a difference of several percentage points to annual production.

The sunshine has been a bonus so far, with production up 5 per cent on last year. But farmers are anxious because continued dry weather into June could reduce grass growth, and begin to cause problems. A shortfall in summer production would mean expensive winter feeding to meet the quota.

It is vital for the Irish to meet the target because they hope to be allowed further increases until their production reaches average EEC levels.

Thomson agrees DBS norm with Philips

BY PAUL BETTS IN PARIS

THOMSON, the French nationalised electronics group, and Philips, the Dutch electronics multinational, have agreed to work on a common standard for direct broadcasting by satellite.

The two companies, the two largest manufacturers of television sets in Europe, said yesterday it was of "utmost importance" to develop a common European standard for DBS.

The standard they are proposing is called the D2-MAC Paquets system. By adopting a

variation of the European Broadcasting Union's MAC standard for direct broadcasting by satellite, Thomson appears to suggest that France has finally decided to step into line with other European countries.

France has expressed reservations about the MAC norm and has supported a multistandard system involving the existing SECAM and PAL standards in Europe.

The Thomson/Philips standard appears to be a downgraded version of the existing

MAC system but which will enable direct broadcasting of sound and images into a cable television network without a special sound decoder. The existing MAC system requires a decoder.

The agreement comes a few days before an informal meeting of EEC industry ministers here on Friday when the problem of developing common standards for the European telecommunications industry will be high on the agenda.

Indeed, French telecommunications industry officials expect

the meeting to make progress on defining a common standard for telecommunications terminal equipment. The discussions are also expected to touch on plans to connect large European cities with optical fibre systems and to advance attempts to open up national telecommunications markets to competition within the EEC.

French officials have also expressed growing optimism about possible bilateral collaboration in the telecommunications industry with Britain

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Craxi holds firm despite P2 row

BY JAMES BUXTON IN TURIN

SIG Bettino Craxi, the Italian Prime Minister, told his Socialist Party congress yesterday that he was not going to be knocked off course by the row that hit up late last week over the secret P2 Masonic lodge.

A political storm that is still rumbling broke out when the Prime Minister rejected the proffered resignation of Sig Pietro Longo, the Budget Minister, and two colleagues.

The Minister was protesting against a draft parliamentary report that appeared to confirm that he had been a member of the P-2 lodge—something he has always denied.

Sig Craxi told the closing session of the Socialist Party congress in Verona that he had

acted correctly with Sig Longo, in response to what was a protest over a leaked copy of the report.

But he said there were still many serious questions about the P2 lodge and its activities that had to be properly answered.

The P2 lodge, a network of Italians in important positions to whom have been attributed many of Italy's major scandals, was discovered in 1981, causing the fall of the government of the day.

The Government is to make a statement to parliament on the issue of Sig Craxi's handling of the resignation offer by Sig Longo today. But it hopes to keep the issue at bay until the parliamentary commission in

investigating the lodge presents its final report, which it is due to do in mid-July.

Despite the solidity of support for Sig Craxi, demonstrated by his party congress, which unanimously re-elected him leader, the Government could face a difficult few weeks leading up to the next major event in the Italian political calendar, the European elections on June 17.

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# EUROPEAN NEWS

## John Wyles explains why curbing farm spending will please only certain EEC members For some, happiness may add to misery

IF THE British, Dutch and West German governments have their way, the EEC will wrap a corset around the Common Agricultural Policy this year to curb its immoderate appetite for money. As financial realists, they believe that once the Ten have legally ordained that the annual growth in farm spending must be kept at a certain level, then the CAP can be brought to heel.

Much of the scepticism derives from the European Commission's proposal just before Easter to raise a loan of 2.33bn European Currency Units from member governments to balance the Community budget this year. A 2bn Ecu deficit is likely in 1985, so the Commission is likely to have to pass the hat around again next year.

While sceptical about the practicality of such a move, other member states did agree to a form of words at the March EEC summit which appears to hold out the chance of keeping the annual growth of the CAP budget below the annual rise in the Community's budget income. In 1986, this will be less than 4 per cent.

If this can be done it may all end in neat Micanberesque "result: happiness." But the events of the past few months have strengthened doubts about whether true financial discipline can be brought to the CAP, despite the genuine advances made in the reform package agreed later in March, after the summit.

These deficits are bound to strengthen the scrutiny several national parliaments will give to the other fund-raising proposal which will eventually be made—to raise the 1 per cent VAT ceiling on the EEC's budget income.

The Community will need the extra income badly from January 1986 but before national parliaments agree, some will want to be convinced that EEC spending is under firm control.

Whole Community expenditure is no more out of control than that of national governments, there is concern that new resources will still be consumed by even a partially reformed

CAP or a European Parliament desperate to demonstrate political appeal.

For there is no enclivity in the EEC with the clout of a national Treasury department capable of curbing the costs of "trade offs" between agriculture ministers pursuing a price settlement.

Around 45 per cent of the EEC budget income comes from customs duties and agricultural levies collected by member states. The balance is drawn from up to 1 per cent of the value of a common basket of retail sales.

The Commission's apparent inability over the past eight years accurately to forecast the level of farm spending has not helped either. This is not necessarily the Commission's fault. Its estimates are prepared 12 months in advance of the farm year and are constantly upset by many factors which influence production and price levels.

Until the reform package was agreed the Commission had maintained that spending could be kept within the budget figure if its proposals were adopted. The Farm Ministers added 17m Ecu to the bill, rather than endorsing the savings the Commission wanted, but even if they had backed the Commission's blueprint, the CAP would still not have come in under budget.

Developments in the short-term economic situation, euphemism for mistakes in forecasting, are blamed. Milk products, beef, veal and sheepmeat are going to cost 1.35bn Ecu more than budgeted, while wine, olive oil, fruit and vegetables will soak up an additional 625m Ecu. Provisionally, cereals, seeds and cotton will need 865m Ecu less than envisaged.

In future, dairy spending may be more predictable because of the quota system and the limiting of the open-ended price guarantee to some other products should also help. But few experts are yet ready to claim that the CAP has been

sufficiently altered to guarantee a limit on spending growth—even one as feasible a limit as agreed in March, which would be applied as an average over three years.

## Planinc reshuffles Yugoslav cabinet

By Aleksandar Lebl in Belgrade

OLD FACES reappear in new jobs, as Yugoslavia today gets another collective presidency and a reshuffled federal Government under the complex system designed to rotate leaders and balance regional interests.

Mr Veselin Djuranovic, Prime Minister until 1982, becomes the most senior of the eight members of the collective presidency, one from each of the eight republics and provinces.

His selection was the constitutional right of his native republic of Bosnia-Herzegovina alone, but it immediately drew some political criticism from the most financially solvent republic, Slovenia, on the ground that Yugoslav foreign debt had diminished under Mr Djuranovic.

However, Slovenia's sensitivities have been reassured by the fact that Prime Minister Milka Planinc, in her mid-term cabinet changes, has made the Slovene premier, Mr Janez Zemljic, Vice-Premier in charge of day-to-day economic planning in the federal Government.

Mrs Planinc's two-year record in office came in for some criticism this week in Parliament. The main complaint was that she had moved too slowly to implement the stabilisation programme agreed with the support of the International Monetary Fund a year ago.

But the problem for Mrs Planinc, as far as her predecessor Mr Djuranovic, is simply the power of individual republics to frustrate federal government actions.

Addressing Parliament yesterday, Mrs Planinc expressed the hope that by 1986 Yugoslavia might be able to return to normal financial relations with its Western creditors.

## Senior Polish official to brief Pope on government policies

BY CHRISTOPHER BOBINSKI IN WARSAW

THE FOCUS of Polish Church-State relations this week moves to Rome as Roman Catholic efforts to secure the release of the country's 400 or so political prisoners ground to a halt at the weekend.

Visits to the Vatican are planned by senior Polish churchmen, while Mr Henryk Jablonski, the chairman of the Council of State, a collective presidency, is due to meet the Pope.

While churchmen yesterday had still not given up hope that an agreement might be reached, the refusal at the weekend by 11 of the most prominent prisoners to promise to desist from political activity for two and a half years, as the authorities are demanding, left little prospect of success.

Archbishop Bronislaw Dabrowski, a key figure in the talks on the prisoners, flew to Rome yesterday to brief the Pope on the situation. Cardinal Jozef

Glomp, the Polish Primate who flew to Paris is due to Rome at the end of the week.

Mr Jablonski is leaving for Italy on Thursday, in his capacity as head of the official war veterans' association, for celebrations at Monte Cassino, the site of fierce fighting involving Polish troops during the Second World War.

While in Italy he is expected to have a private meeting with Sig Sandro Pertini, the Italian President, which would represent a dent in the Western ban on top level contacts with the Polish authorities.

Mr Jablonski's meeting with the Pope will be the first opportunity that General Wojciech Jaruzelski's government will have had to put its point of view since the papal visit to Poland last summer.

## Current account deficit doubles in Denmark

BY HILARY BARNES IN COPENHAGEN

DENMARK'S non-Socialist minority Government is achieving some success in its campaign to curb the growth of the public sector borrowing requirement, according to revised official statistics. It has not been so successful, however, in bringing the current account deficit on the balance of payments under control.

The first quarter deficit more than doubled from Dkr 2.48bn (£177m) last year to Dkr 5.8bn (£417m). The fourth quarter deficit last year was Dkr 1.8bn and for the whole year Dkr 10.8bn.

The worsening of the first quarter deficit was caused by a Dkr 2.5bn deterioration in the trade balance and an increase of Dkr 1bn in net interest payments on the foreign debt, which at the end of last year equalled 36 per cent of the gross domestic product at Dkr 1.85bn.

Mr Anders Andersen, the Economy Minister, remained unperturbed by the first quarter figures and stood by the

Government's forecast of a deficit for the year of about Dkr 12bn (£857m).

The increase in the external deficit reflects sharply rising domestic demand, especially building investment, investment in capital goods and inventory building. Imports in the first quarter increased by 19.9 per cent against a year earlier, while exports increased by 12 per cent.

Manufacturing industry deliveries, meanwhile, increased by 10 per cent in volume and new orders by 21 per cent, in current prices.

Figures from the Bureau of Statistics indicate that the consolidated PSBR declined last year for the first time since 1978, from Dkr 48bn in 1982 to Dkr 40bn, or from 10.2 per cent to 7.7 per cent of GDP.

The improvement was the result of a reduction in the growth of expenditure (excluding interest payments) from 15.5 per cent in 1982 to 7.6 per cent last year, revenue increased by 15.6 per cent.

## Finland seeks to slow economy

BY KEVIN DONE, NORDIC CORRESPONDENT IN HELSINKI

FINLAND IS tightening its economic policy with a mini-budget package aimed at restraining the fast pace of economic growth this year as part of the fight against inflation.

The economy is expanding more quickly than expected, helped by booming demand for Finnish products from Western markets, and the latest forecasts had suggested that gross national product could expand by at least 5 per cent in 1984, one of the highest growth rates of any of the industrialised countries.

The Government is seeking to ensure a more even pattern of growth to break the traditional Finnish cycle of rapid growth followed by high inflation and a rapid loss of competitiveness.

In a series of measures—some temporary—it is both cutting planned state expenditure by FM 700m (£97.5m) to the end of 1985 and increasing certain taxes and charges by FM 800m over the same period. The aim is to bring inflation down to 6 per cent by the end of the year.

strongly expansionary in 1982, as the Government acted to stimulate the economy and hold back the rise in unemployment. With the recovery now firmly under way, it has been adopting increasingly restrictive policies.

Despite the deflationary impact of fiscal policy—expected to be the equivalent of a fall of 0.9 per cent in GDP this year—the economy is still expected to grow overall by more than 4 per cent this year.

Over the longer-term, the Government is aiming for an annual growth rate of 3 per cent.

Tax raising measures include increases in energy and some other energy taxes from July 1, a 0.5 per cent increase in the social security premium paid by the employers, and a 0.5 per cent increase in health insurance charges.

The Government is keen to strengthen the state's finances in 1984 and 1985, both years when the economy is expected to grow strongly, so that fiscal policies can again be used to bolster production and employment when the next recession begins.

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## Blast sinks Spanish navy vessel

By Tom Burns in Madrid

A SPANISH navy patrol boat was sunk early yesterday in the Ebro river that forms the frontier with France by an explosive device believed to have been planted by members of the ETA, the Basque separatist organisation. A navy rating on guard duty was killed by the blast.

The vessel, a 30-foot-long fast patrol boat stationed in the port of Fuenterrabia, was sunk reportedly by a mine attached to its hull below the waterline. Among the vessel's missions was preventing the entry of Eta members and arms from France into Spain.

The timing of the attack suggested that it could have been in response to long jail sentences handed down last week by a court martial on eight Eta members who took part in an assault on a military barracks in 1980.

Police also speculated that the blast could have been a revenge for the shooting by police of four members of the Eta splinter group, anti-capitalist autonomist commandos, in March when they were entering the nearby harbour of Pasajes in a rubber dinghy late at night.

Four years ago, Eta claimed responsibility for a below the waterline explosion that came close to sinking a 3,000 tonne Spanish destroyer docked in the port of Santander. A year later a remote-controlled small vessel packed with explosives narrowly missed a patrol boat in the port of Pasajes.

## Lisbon plans cabinet switch

By Diana Smith in Lisbon

PORTUGAL'S Socialist Prime Minister, Sr Mario Soares, and his Deputy Premier, Sr Carlos Mota Pinto, leader of the Social-Democrat Party, are preparing moderate changes in their year-old coalition cabinet.

After a marathon weekend meeting with Sr Soares, prominent Socialists repeated their support for the cabinet's tough austerity policies and for a reshuffle that could strengthen the executive.

The changes are not expected to affect the toughly-managed financial domain, but rather ministries whose incumbents have had difficulty accepting belt-tightening guidelines, or which have not been well run. Negotiations between coalition leaders are also expected to cover areas like labour laws and the financially-crippled sector.



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AMERICAN NEWS

Reagan in campaign to rescue MX missiles

BY REGINALD DALE, U.S. EDITOR, IN WASHINGTON

PRESIDENT REAGAN yesterday began a high-pressure campaign to rescue his MX intercontinental missile from a determined attempt to block production funds in the Democrat-controlled House of Representatives. The controversial 10-warhead missile is regarded on Capitol Hill as the most vulnerable weapons system in the \$29.1bn (£210m) Defence Appropriations Bill for fiscal 1985, on which debate is due to open in the House later this week.

Mr Reagan planned to use the next two days for intensive lobbying of House members by telephone and in personal meetings at the White House in a bid to save what he regards as a key element of his overall strategic modernisation programme, officials said yesterday.

The Administration, however, faced a dilemma over whether to continue to press for its full request of \$3.1bn for a second batch of 40 missiles, and risk losing all production funds, or settle for a compromise. The House last year approved a first instalment of 21 missiles by a narrow 9-vote margin only after heavy pressure from the Administration.

Mr TIP O'Neill, the Democratic House speaker and a leading MX opponent, now believes that the House will vote down all new production funding for the missiles, including a proposal by the House Armed Services Committee that only 30 rather than 40 missiles be built next year.

Congressional backers of the MX have been trying to come up with a compromise by cutting the number to perhaps 15. Along with the Administration, they argue that to end production altogether would simply reward the Soviets for walking out of the Geneva Strategic Arms Negotiations (Start). Another compromise suggestion is that production funds only be released if Moscow continues to refuse to return to the negotiating table.

Bergsten pessimistic on London economic summit breakthrough

BY STEWART FLEMING IN WASHINGTON

THE LIKELIHOOD that the forthcoming economic summit in London would adopt measures to tackle the challenges posed by the international debt problem, growing protectionism and the misalignment of exchange rates was "virtually nil," Mr Fred Bergsten, director of the Institute for International Economics told U.S. Congressional committee yesterday.

In testimony to the joint economic committee he warned that the "debt bomb . . . continues to tick loudly," that the misalignment of exchange rates revealed structural shortcomings in the monetary system and that the erosion of the international trading system was continuing as a result of growing protectionism.

In addition, he said severe imbalances in world economic recovery, due largely to high U.S. budget deficits and interest rates, should be addressed at the summit.

He said that although the record of past economic summits was uneven, the possibility was there for such meetings to agree on co-operative responses to a set of problems.

The ingredients for a fairly extensive package could be there because of the growing awareness of the risks to the global economic system.

In some quarters however, there was genuine belief that all was well, that the U.S. was growing rapidly and that some of the problems could be much worse.

There was virtually no evidence that a package of initiatives to tackle world economic problems was being prepared, or even seriously contemplated.

Reports of unrest in the Guyana Defence Force

BY HUGH O'SHAUGHNESSY

UNREST IS reported from Georgetown among the Guyana Defence Force amid continuing criticisms of the Government's economic policy by opposition groups. Guyana's gross domestic product is expected to contract again this year after shrinking 10.5 per cent last year and 13 per cent in 1982.

Reports of unrest come in the wake of claims by Granma, the Cuban Communist Party daily, that the Reagan Administration is seeking to destabilise President Forbes Burnham and reports in banking circles that Washington is favouring Comrade Hamilton Green, the agriculture minister, as a replacement for President Burnham.

President Burnham expelled two U.S. diplomats last May after charging that they had been interfering in Guyana's internal affairs. The Reagan Administration vetoed a \$10m loan from the Inter-American Development Bank to Guyana in August.

President Burnham has been in power for 18 years.

\$350m order for aircraft

By Michael Doms, Aerospace Correspondent, in London

MCDONNELL DOUGLAS of the U.S. has won an order worth over \$350m for six commercial DC-10 tri-jet airliners from Federal Express, the Memphis-based company which specialises in the overnight delivery of parcels throughout the U.S.

The aircraft are all freighter versions of the DC-10. The significance of the order is that it enables McDonnell Douglas to resume production of commercial models of the DC-10, halted some time ago because of lack of orders.

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## UK group wins £60m Singapore cable order

**Financial Times Reporter**  
BICC, THE British cable and contracting group, has won a £60m contract to supply super-tension cables to the Public Utilities Board of Singapore.

The cables are for transmitting electric power generated at the power station being built on the island of Pulau Seraya, on the south coast of Singapore.

BICC beat several Japanese and European bidders for the contract, which covers the 230 kv and 66 kv overhead transmission lines. It also includes power lines to run from Senoko power station in the north of Singapore. Contracts for lines from Pulau Seraya to the Singapore mainland have not yet been let.

A significant feature of BICC's bid was a package put together by Midland Bank and Development Bank of Singapore to provide an exchange for the 13-year period of an ECGD supported loan.

Manufacture of the cable will begin at BICC Super-tension Cables in Kent in the last quarter of this year. Part of the cable will be made at Wrexham in Wales.

Mr Ron Enton, general manager of BICC Super-tension Cables, said the contract would provide about a fifth of the orders needed in the 1985-87 period. "It gives us a good base on which to build," he said.

BICC said this was the largest export contract ever won by one of its manufacturing subsidiaries. It is the second major contract won by a British company on the Pulau Seraya project. Last year, Northern Engineering Industries won a £70m contract to supply three 250 megawatt turbine generators.

## Swedes clinch iron ore deal

LKAB, the state-owned Swedish iron-mining company, which has emerged from a long period of decline to post a small 1983 profit, has announced an SKR 3bn (£366m) contract to provide ore to Faina-Salzgitter of West Germany over the next five years, David Brown in Stockholm writes.

The contract for 2m tonnes of ore pellets is regarded as a significant advance for the iron industry. It is "a big consideration reopening a pelletising plant, which would expand capacity by 50 per cent."

The company still faces tense negotiations with the mining union on a 1984 pay contract. It is attempting to negotiate a productivity-related wage scale to which labour is bitterly opposed.

## Egyptian arms sales

EGYPT'S military exports have levelled off to \$500m a year after reaching a peak of \$1bn in 1982, according to senior defence officials, Charles Richard reports from Cairo.

Sales of armaments and spare parts to Iraq for Soviet-built equipment in the early stages of the Gulf war accounted for most of the \$1bn.

## Ozal seeks Mideast work for surplus manpower

**BY MOHAMMED AFTAB IN ISLAMABAD**

PRIME MINISTER Turgut Ozal of Turkey said here yesterday that his country would like to fill Middle East demand for both goods and manpower.

"There is an Islamic saying that if one door is closed, Allah opens another," he said when asked what would be the effect of return of Turkish workers from West Germany, which could grow rapidly in future. Over the years these "guest workers" have been a significant source of foreign exchange earnings for Turkey.

Mr Ozal, told a news conference at the end of his four-day official visit to Pakistan that "the immediate problem of workers returning from West Germany is not very serious," although many will come back.

He said Turkey was beginning to get construction contracts in the oil-rich Middle East, which could absorb some manpower from his country. "We have considerable potential in construction and other fields in the Middle East," he said. He particularly mentioned construction work by Turkish companies in Saudi Arabia,

## F-16 offset accord signed

**BY DAVID SARGHARD IN ANKARA**

GENERAL DYNAMICS of the U.S. and Turkey's state aircraft corporation, Tusa, have signed a \$150m offset agreement over ten years, under which aeroplane spare parts will be manufactured by a joint venture of Turkey and General Dynamics.

The agreement, which was signed at the weekend, is the first step towards establishing offset agreements worth \$1.5bn as part of the financing of the \$4.2bn project to manufacture F-16 jet fighters in Turkey. Tusa and General Dynamics recently set up a joint venture with an initial capitalisation of Turkish Lira 250m (\$750,000)

# French industries move to step up collaboration with U.S. companies. David Marsh explains State enterprises pursue transatlantic ventures

STATE-CONTROLLED French enterprises are signing an increasing number of collaboration accords with high-technology U.S. companies to boost links with expanding American markets and gain access to U.S. technological advances.

The moves form part of a general bid by French companies to step up their trade and investment presence in the U.S. after years of lagging behind other European countries. But it runs counter to the Socialist Government's policy of trying to foster industrial co-operation within Europe, especially in fast-growing sectors like electronics and biotechnology.

State-owned groups have announced more than a dozen U.S. deals during the past few months. They involve equity participations in specialised American companies or collaboration in fields ranging from computers to agriculture and precision engineering.

The steps underline the more pragmatic line being taken by nationalised companies towards foreign collaboration, especially in deals which involve sharing U.S. or Japanese know-how.

Bull, the state computer group, for instance, says it is now emerging from the "ghetto" of refusing to rely on outsiders. The new policy is that "we will never do anything completely on our own," according to M Francis Lorentz, Bull's managing director.

Interest in the U.S. market is growing at both the Government and corporate level. France, which is traditionally well down the league of the main trading nations exporting to the U.S., boosted its American sales by 27 per cent last year, reducing its trade deficit with the U.S. to FFr 17bn from FFr 29bn in 1982.

France ranks eighth in foreign investment in the U.S., a long way behind Britain and the Netherlands but now French companies are seeking direct American acquisitions.

Recent American accords by state-controlled groups are spread over several different sectors:

**Computers**  
Bull last month signed a technical and commercial co-operation agreement with Ridge Computers of California. It will acquire a 10 per cent stake in Ridge in exchange for taking the U.S. company's high-performance industrial and scientific computer into its product range.

**Thomson**, in electronics, has agreed collaboration with two other Californian computer groups, Fortune and Eagle, over microcomputers.

**Computer services** group Tecl-Software, a subsidiary of



President Francois Mitterrand (left) ... said to be particularly impressed by his conversation with electronics entrepreneurs and venture capitalists in California's Silicon Valley during a tour of the U.S. in March

CIT Alcatel, agreed in March to co-operate with Rank Xerox in developing and marketing artificial intelligence systems. This followed a previous agreement between the French nuclear company Framatome and Californian company Teknowledge.

Matra, the state-controlled defence and electronics group, has also agreed to joint development and sales with Datapoint of computer terminals for the French office automation market.

**Telecommunications**  
CIT Alcatel's terminals subsidiary Telte has just taken a 20 per cent stake in Sanitrol,

existing agreements in semi-conductors between France and high technology U.S. groups such as Motorola, Intel, Harris and GCA. Motorola and Intel microprocessors, for instance, are integral parts of CIT Alcatel's best-selling E10 digital telephone exchange, and a Motorola "chip" forms the basis of the "smart" electronic payment card which Bull is now attempting to commercialise in the U.S.

**Biotechnology**  
Sanoel, the pharmaceuticals subsidiary of state oil group Elf Equitaine has just mounted a takeover bid for Wisconsin-based Dairyland Food Laboratories, which has a key position in applying bio-techniques in the milk sector.

Earlier this year, Rhone-Poulenc agreed a joint research venture with Seedette, a subsidiary of U.S. vegetable oil group Kay Corporation, to launch into crop seed production using genetic engineering techniques.

**Medical equipment**  
Thomson has announced joint research and marketing with California-based Diasonics to expand the French company's range of electronic diagnostic equipment.

**Energy**  
Dallas-Wear, a subsidiary of Alstom Atlantique which like CIT Alcatel is part of the

nationalised CGE conglomerate, last month agreed joint marketing in the U.S. of specialised power station equipment with the U.S. company Combustion Engineering.

The state coal board Cdf has also announced an agreement on solar energy collaboration with Chronar of the U.S. which will be building a plant in north-east France to make panels of photovoltaic systems.

Although all these accords combine different research and marketing benefits for partners, the lion's share involve some transfer of American technology to France.

President Francois Mitterrand, who toured the U.S. at the end of March, was said to be particularly impressed by his conversations with electronics entrepreneurs and venture capitalists in California's Silicon Valley.

In a marked change of tone from earlier policies towards supporting French industry, officials at the Paris Industry Ministry now talk of importing American risk capital methods to provide jobs in hard-hit regions like the Lorraine steel belt in eastern France.

In spite of official injunctions to step up links with other European companies, France's nationalised industries now realise that collaboration with the U.S. is vital to efforts to catch up in the technology race.

## Japanese to raise EEC photographic paper price

**By Paul Cheswright in Brussels**  
FUJI PHOTO Film and Konishiroku Photo Industry of Japan are to raise the prices of their colour photographic paper on the EEC market following an anti-dumping investigation by the European Commission.

The Commission announced yesterday that it had accepted price undertakings from the two companies which had been found to have dumping margins respectively of 68.2 and 51.6 per cent. The resale prices of their products in the EEC had been undercutting domestic producer prices by nearly 20 per cent, the Commission said.

The anti-dumping investigation followed a complaint by Agfa-Gevaert.

But two other Japanese companies, Mitsubishi Paper Mills and Oriental Photo, were found by the Commission not to be injuring European industry. Agfa-Gevaert lost over 30 per cent of its market share between 1980 and 1983 as Japanese sales of the photographic paper rose from 17.5m to 40.9m square metres.

Fuji and Konishiroku, when told the results of the anti-dumping investigation, agreed to raise their prices to a level which would not cause injury to the EEC industry.

## Swiss credit risk scheme in record deficit

**By John Wicks in Zurich**

THE Swiss Export Risk Guarantee Programme (ERG) last year showed a record deficit of SwFr 240m (£75m). This compares with a shortfall of SwFr 186.5m in 1982, when the Government had to make a first-ever contribution to the system of SwFr 169m.

A Ministry of Economic Affairs official indicated that the deficit should rise again this year, a probability which had already been aired by export interests. However, the Government does not intend to insist on a "fundamentally restrictive course" for the ERG.

British exporters selling capital goods on credit denominated in U.S. dollars or Deutschmarks are being offered a "general bank guarantee" by the Export Credits Guarantee Department, our Trade Staff writes.

The ECGD said in London yesterday the guarantee would run in parallel with basic insurance cover expressed in the two currencies. Until now the ECGD had only been able to offer individual guarantees for each contract.

To begin with, the supplemental (foreign currency) extended terms guarantee will be available for contracts worth at least \$250,000 or the DM equivalent. Cover in a wider range of currencies may be available later, the agency said.

# MANAGEMENT AMIDST DIVERSIFICATION

## A STRONG FUTURE IN SOUND, VISION AND MEMORY

Atsushi Nagai, President, Hitachi Maxell, Ltd.

**H**itachi Maxell, a member of the giant Hitachi electronics group, has come a long way from its origins as a maker of dry cell batteries. Founded in 1961 to take over the battery-making functions of another Hitachi subsidiary, it got its name from the first product: MAXimum capacity dry cell. It also inherited the other company's magnetic tape division of an advanced stage in the research and development phase, turning this into its dominant business line—first in audio and then in video tapes. Business diversification over the years has followed a logical pattern. From dry cell and micro batteries, it was a natural step to start making battery-operated products like clocks, shavers, flashlights and small home appliances. Magnetic tape production has led to data and personal computer cassette tapes and floppy disks. The advance into computer memory has continued with the development of optical disks, providing a quantum leap in information handling capacity. Internationally, the diversification policy has led Hitachi Maxell into exporting battery plants to many countries, and into establishing tape manufacturing facilities first in the United States and more recently in Britain. The reasons behind such moves are explained by company President Atsushi Nagai.

One reason is that there is still room for further significant development, especially in video tapes. We are working on improving the audio characteristics and picture clarity of the existing half inch tapes. At the same time, there is great potential in the development of 8mm video tapes for lightweight cameras. I don't see any major developments in audio tapes, but improvements will continue to be made in sound quality.



### "Electronic Devices and Instruments"

**Murray:** Where is the main thrust of your new product development at present?  
**Nagai:** We are very keen to develop the potential of our electronic device and instrument group. We have some products already marketed, but we want to expand into new fields. One of the most important areas is computer memory. Using our long expertise in magnetic tape development, we have had good success with various floppy disks, particularly in the technology necessary to ensure their long life under all sorts of conditions. The demand for even greater information capacity has led us into the development of an optical disk that can store data equivalent to 40,000 sheets of letter-size paper. We will start selling these soon.

**Murray:** You have also become quite active in diversifying your production facilities overseas. What are your underlying motives for this?  
**Nagai:** At present, half of our products are sold overseas. That is a

considerable amount and we felt that we could not go on for ever simply making these products only in Japan. We have been exporting technology and production plants for dry cell battery manufacturing for some time, but the shift overseas in the magnetic tape division only occurred four years ago. We first set up a plant near Atlanta, Georgia, because the United States is our most important market. Now, we have a video tape manufacturing plant at Telford in Shropshire. This was a natural step because Europe is our second largest market.

**Murray:** But why Britain and why Telford?  
**Nagai:** Well, after considerable research Britain and West Germany emerged as the most promising candidates. And although there were good and bad points, Telford was eventually chosen because the people concerned were the most enthusiastic

in seeking the location of our proposed plant. Production started in March, although the official opening is not until June. Initially the factory will produce 500,000 tapes a month, and will have a total staff of about 120.

### "Unusual Approach to Recruiting"

**Murray:** The newspaper advertisements through which you sought to recruit staff were rather different than the normal ones. Why did you decide on this approach?  
**Nagai:** Well, we thought about what was the most important thing that we would need in starting a factory in Britain. We were exporting the technology from Japan, so we felt the most important thing to stress in the recruitment advertisements was that the people seeking a job should understand the way we do things at Maxell. They should understand our philosophy and cooperate with us. Actually, they were not really recruitment ads. We wanted to present our ideas in establishing the Telford factory and we wanted to have people who were interested in those ideas come and ask us for a job. The response, I must say, was overwhelming. What we stressed, first of all, was that the people at the Telford factory would be part of the Maxell family. We wanted people who would be willing to do a wide range of jobs, with the knowledge that if they were enthusiastic and demonstrated talent they would be promoted. It is my impression that workers in England and America, for example,

generally tend to do only one type of work and refuse to do any other, if asked to do so by the management. They will say "it's not my field", or "I'm not supposed to do it". Our idea is that people have to be flexible and be willing to accept a wide range of responsibilities and accumulate a broad range of knowledge. I should say that the worker reaction to this has been very good. In return, it is the responsibility of management to create a company where people can work with pleasure.

### "Long-Term Commitment is Essential"

**Murray:** What would you say is the most important aspect you want to stress in your overseas operations like Telford?  
**Nagai:** I tell my people who are working in both the American and British factories that it is necessary to continue their operation not just for my generation but also for those of my children and grandchildren. You cannot just close down the factory and come back to Japan any time that things aren't going so well. This means we have to keep on developing and introducing new products, continuing to maintain favour with our customers with the products that best fit their current needs. It's very difficult really, because even though you may be doing very well with your present products there is no guarantee that this will always be the case. But we have to be determined to continue the operation of these overseas factories at all costs. Because of this determination, I tell my Japanese and locally-hired staff that there may be times when we will have to make demands of them which will be very difficult.

**Murray:** Are there tangible ways in which you can display this long-term commitment?  
**Nagai:** Well, one example is that one year after we opened the American factory in Conyers, Georgia, we presented the town with 500 cherry trees. These were planted not only in the factory grounds, but also along the roadsides and in front of the town hall. I am sure you know that cherry blossoms have a very deep symbolic meaning for us Japanese. In March 1984 these trees blossomed for the first time. So, my feeling is that now we cannot leave these trees behind and come back to Japan. The same applies to Telford. I think it is very important right now to do something that will make it extremely difficult, if not impossible for us, to leave.



Hitachi Maxell, Ltd.

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Phone: 0952-51911 Telex: 35176  
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OVERSEAS NEWS

John Elliott in Chandigarh sees a shadow cast on the industrial future of the Punjab Sectarian threat to Indian hi-tech projects

THE good news for Indian industry is that the country's first microchip factory is now entering production. The bad news is that the factory is in Chandigarh, the city on the edge of the Punjab which is now a focal point for the demands of Sikh activists for more provincial autonomy.

A MEMBER of India's security forces was killed and 10 people injured yesterday in shootings and riots in the northern Indian states of Punjab and Haryana, according to the Press Trust of India.

Renter reports that the agency said a member of a local home guard unit was shot dead and two people, including a policeman, were seriously injured when extremists attacked a rail station near the Sikh holy city of Amritsar in Punjab.

The Government's policy is to bring in products and processes from abroad initially to plug gaps at home. Then it is intended to use Indian expertise and foreign know-how to design and manufacture the next generation in India.

extremists attacked a rail station near the Sikh holy city of Amritsar in Punjab. Eight people were injured in rioting in neighbouring Haryana. The rioters were protesting at the murder of a Hindu newspaper editor in Punjab on Saturday.

A 22-hour curfew was imposed in Amritsar on Sunday night as a precaution against a strike planned for yesterday in the two states and adjacent Himachal Pradesh to protest at the weekend murder.

of companies in Chandigarh which produce only for export. Using materials imported from the U.S., it assembles magnetic heads for floppy disc drives at a price and quality which the Sidhu family says beats U.S. standards and almost equals the Japanese.

When the French architect Le Corbusier set out to create a new type of environment in Chandigarh 30 years ago, he provided two legacies for this garden city. One is a cluster of large, gaunt concrete buildings which house the Punjab Administration. The other, more pleasing, is the city's grid pattern of wide roads, which have a spaciousness that contrasts with the crowded bustle of most Indian towns.

West Bank Rabbi arrested

By Lynne Richardson in Tel Aviv RABBI MOISHE LEVINGER, the spiritual leader of the Israeli settlers on the occupied West Bank, has been arrested by police investigating the Jewish terrorist underground, which recently tried to blow up a number of Arab buses in Jerusalem.

Early returns point to strong showing by Marcos opponents

EARLY unofficial returns in yesterday's parliamentary elections in the Philippines pointed to an unexpectedly strong performance by opposition parties, notably in the Manila area but a probable overall majority for the ruling party of President Ferdinand Marcos.

Nigerian anti-corruption trial starts in secret

NIGERIA'S military Government yesterday launched its first anti-corruption trial in secret, in the face of a last-ditch effort by three former state governors to have their case postponed.

Namibian conference ends inconclusively

SENIOR OFFICIALS of the Namibian settlement conference that ended on Sunday night said yesterday that delegates from the territory's political parties had been close to agreement on a draft declaration urging the implementation of the UN settlement plan for Namibia.

The after-tax profit for the year was £16.79m, an increase of 24 per cent

In the Report and Accounts for the year 1983 the Chairman, Mr. R. E. Holland, states:

On this first occasion on which I am reporting to you as Chairman, I am pleased to be able to record that after-tax profit has increased by 24.0 per cent, being £16.79 million for the year against £13.55 million for 1982.

Transfers from the long-term funds have increased by 25.3 per cent. This wholly exceptional increase, which is not likely to be repeated in another year, is mainly as a consequence of the very considerable improvement which we have been able to make in the terminal bonus granted to our life assurance policyholders following a reassessment of our policy in this respect.

SATISFACTORY GROWTH

New life business in both branches has grown at a very rapid rate. In the ordinary branch a big contribution came from the introduction of mortgage interest relief at source (MIRAS) which gave us the opportunity to sell a large amount of low-cost endowment assurance business which would not otherwise have been available.

The general branch has been less successful than the life branches. Although premium income has increased by 1 per cent, a substantial part of this increase has come from overseas branches and not from our main U.K. operations.

REORGANISATION

Our Company Development Plan has continued in progress well. The non-executing branch and general branch reserves, as appropriate, as they were last year. We have also made a significant improvement in the terms of our Staff Superannuation Fund by reducing the normal retirement age of male staff to 64. Part of the cost of this has been met by the payment of a lump sum in 1983, but the effect is spread over three years by making transfers from the reserves in the same way as we have met Company Development Plan expenses.

INDUSTRY DEVELOPMENTS

Several controversial developments have arisen in the life assurance industry during the last 18 months and I am sure you will wish me to comment on them. The most important matter affecting the Company's affairs has been the abolition of life assurance premium relief for policies completed after 1/4th March this year. This relief has been available, in one form or another, for as long as the Pearl has existed. It has been of invaluable assistance in encouraging the public to provide for their retirement or protect their families against their early death, and has made available for investment funds that would otherwise have been spent. While I must admit that the misuse of relief by some other offices in recent years has invited retribution, I can only deplore its sudden and total withdrawal for new policies.

The Annual General Meeting of the Company will be held on 6th June at 12 noon at the Registered Office, High Holborn, London WC1V 7EB.



PEARL ASSURANCE PLC

District Offices throughout the United Kingdom.

Table with columns: SALIENT POINTS FOR THE YEAR, 1983, £m, 1982. Rows include Life business, Life surplus, Assets of Long-term business, General branch, Profit and loss account, Assets of Short-term business, and Total assets of the group.

However, I very much doubt if the effect on the Pearl will be as serious as the initial stock-market reaction might have implied. This opinion is based on the morale and enthusiasm of our staff, their good standing with the public, the financial strength and reliability of the Company and our history of adapting successfully to change over a very long period of time.

I must refer also to Professor Gower's final report on investor protection. A lengthy section of this report deals with life assurance as a savings medium. We consider that the final report is a great improvement on the original discussion document. The specific references to insurance business are almost entirely ones which we can fully support.

The abrupt introduction of this change in LAPS meant that many of our policyholders completed proposals before 1/4th March for policies that were not completed in time to qualify for relief. As a concession to them, the Company is paying the relief on behalf of all policyholders whose proposals had been received in the chief office by March 13. The cost, which will reduce surplus in future years, is expected to be upwards of £500,000 per annum.

COMMISSIONS

The second development on which I would comment is the demise of the Life Offices Association commissions agreement, to which my predecessor referred last year. Negotiations have continued throughout 1983 and into 1984 to set up a new Registry of Life Assurance Commissions (ROLAC) to replace the commissions agreement. Since the Pearl obtains virtually all its life assurance business through its own staff, ROLAC is only of marginal importance to us. Nevertheless, we consider that an orderly market is of great importance to the industry as a whole and have supported ROLAC throughout. Although the payment of higher commissions by the broker offices might indirectly benefit the Pearl, by improving our competitive situation, we think that public confidence in life assurance is of greater importance.

PENSIONS

Another topical subject is that of portable pensions. It has been suggested that individual workers should have more control over their financial future by providing personally for their pensions rather than being part of a group scheme, insured or self-administered.

ANNUAL GENERAL MEETING

I would draw your attention to the items of special business on the agenda for your consideration at the Annual General Meeting on 6th June next which are more fully explained in the enclosure to this Report. These comprise proposals to revise the Company's Memorandum, to adopt new Articles of Association to bring them into line with current legislation and practice, and to introduce a SAVE Share Option Scheme for the benefit of our full-time staff.

BOARD CHANGES

Apart from the changes on 9th June last year which were mentioned by my predecessor in his report for that year, there have been two further changes on the Board. Mr. Jim Holcroft resigned as a non-executive director in August 1983 and Mr. Bob Younger similarly resigned in February this year. Both started their Pearl careers as agents in the field, became Divisional Managers and then transferred to the management team at chief office. Mr. Younger became an executive director in June 1975 and both he and Mr. Holcroft served as non-executive directors for three years after their retirement from full-time work. We thank them both for their contribution to our affairs over very many years. I would also like to record a few words about my predecessor in the chair, Mr. Fred Garner who spent his whole working life with the Pearl. He was an outstanding chairman and he also served the Company with distinction as Controller of Investments for many years prior to his appointment to the Board. His colleagues are delighted that he has agreed to remain on the Board in a non-executive capacity as our President.

THE GOWER REPORT

I must refer also to Professor Gower's final report on investor protection. A lengthy section of this report deals with life assurance as a savings medium. We consider that the final report is a great improvement on the original discussion document. The specific references to insurance business are almost entirely ones which we can fully support. While we agree with Professor Gower's wish to deter policyholders from taking out industrial branch contracts when they could afford and would be better off with ordinary branch contracts, we think his specific suggestion to that effect may not be the best. We are supporting the Industrial Life Offices Association in searching for alternatives.

Advertisement for Pearl Assurance featuring an image of a woman and the text 'ARE YOU ADEQUATELY INSURED?' and 'Pearl cares'.

THE GOWER REPORT

While we doubt whether they would be as willing to provide for their own pensions as proponents of the portable pensions scheme believe, we do only a small amount of group pension business, and would have little to lose if the group pension market should break up. Conversely, we write a great deal of individual retirement annuity business and might well write more if portable pensions were introduced.

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PENSIONS

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Advertisement for Middlesbrough The River Tees Offshore Centre with a map of the area.

Advertisement for SOUTHERN AFRICA REPORT, a newsletter for investors.

Advertisement for MONSANTO INTERNATIONAL FINANCE COMPANY'S 4 1/2% Guaranteed Fixed Rate Debentures.

Advertisement for Middlesbrough The River Tees Offshore Centre, featuring a map and contact information.



The Mercedes-Benz 230E wears wonderfully well.

The doors go on shutting precisely, with the same satisfying firm 'clunk' that they had in the showroom when they were brand new.

**Makes the highest mileage a lot less wearing.** The seats remain comfortable and firm. The trim, immaculate. And the engine smooth, responsive and reliable.



THE MERCEDES-BENZ 230E

It's simply because Mercedes-Benz engineer longevity into the very structure of the car.

(Those satisfying 'clunks', for example, happen consistently because every single door is individually adjusted so it fits precisely. As is every single boot-lid. And every single bonnet).

The 230E won't wear you out either. Superb ergonomics help you to enjoy the longest journeys in comfort and safety.

The driving position is designed with all the most vital hand controls at fingertip-reach.

At speed, fresh air circulates through the interior and can be completely changed every 20 seconds, keeping the driver refreshed and alert.

The seats are specially designed to support your bodyweight at the pelvic bones, thus avoiding any constriction of blood vessels and risk of dangerous drowsiness.

The highest standards of active and passive safety throughout the car are combined with unsurpassed reliability, luxury, spaciousness, and effortless driving pleasure.

The 230E shares its bodyshell with four other models: the petrol-engined 200 and 280E, and the 240D and 300D, which have diesel engines. Prices begin at £10,365 for the 200.

They all offer you all-round excellence. Which includes, at the end of long and faithful service, and almost in spite of the mileage, a gratifyingly good resale value.



**Mercedes-Benz**  
Engineered like no other car in the world.

# Champagne.



Ladies and gentlemen, raise your glasses to British Caledonian's Super Executive service.

To welcome you aboard, we offer you free champagne before take-off. After take-off, it's the same story. More free champagne. (Or wine,

or spirits, or cocktails, all served in a glass made of real glass.)

Our Caledonian Girls are at your service throughout the flight.

Electronic headsets, hot towels, slippers and eyemasks are all complimentary.

Even on the ground, you're given preferential treatment.

Namely, exclusive check-in and priority baggage retrieval.

Super Executive is available on British Caledonian flights to the USA, South America, the Middle East and

Hong Kong. Long-haul trips, all of them. But you know how time flies when you're having fun.

**British Caledonian**  
**SUPER EXECUTIVE**

We never forget you have a choice.

Notice of Redemption

Dow Corning Overseas Capital Company N.V.

8 1/4 PER CENT. GUARANTEED DEBENTURES DUE 1986

NOTICE IS HEREBY GIVEN that, pursuant to the provisions of the Indenture dated as of June 15, 1971 under which the above described Debentures were issued, Citibank, N.A. (formerly First National City Bank), as Trustee, has drawn for redemption on June 15, 1984 through the operation of the Mandatory Redemption Provision of the said Indenture, \$2,118,000 principal amount of Debentures of the said issue, bearing the following distinctive numbers:

COUPON DEBENTURES OF \$1,000 PRINCIPAL AMOUNT

Table listing coupon debentures of \$1,000 principal amount with distinctive numbers ranging from 1029 to 3884.

The Debentures specified above are to be redeemed for the said Mandatory Redemption at the Broker-Service Department of Citibank, N.A., 111 Wall Street - 5th Floor, New York, New York 10038, and the main offices of Citibank, N.A. in Amsterdam, Frankfurt/Main, London (City Office), Milan, Paris, Citibank (Belgium) S.A., Brussels, or Banque Internationale à Luxembourg, Luxembourg, as the Company's paying agents, and will become due and payable on June 15, 1984 at the redemption price of 100 per cent. of the principal amount thereof. On and after such date, interest on the said Debentures will cease to accrue.

For DOW CORNING OVERSEAS CAPITAL COMPANY N.V. By CITIBANK, N.A. Trustee

May 15, 1984

NOTICE OF REDEMPTION

To the Holders of

DSM (Naamloze Vennootschap DSM)

8 1/4 % Debentures Due June 15, 1987

NOTICE IS HEREBY GIVEN that, pursuant to the provisions of the Indenture dated as of June 15, 1977 providing for the issue of Debentures, \$1,000,000 principal amount of said Debentures have been selected for redemption on June 15, 1984, through operation of the mandatory Sinking Fund at the redemption price of 100% of the principal amount thereof, together with accrued interest thereon to said date, as follows:

Table listing outstanding debentures of \$1,000 each bearing the distinctive numbers ending in any of the following two digits: 11, 13, 23, 25.

On June 15, 1984, the Debentures designated above will become due and payable in such coin or currency of the United States of America as at the time of payment shall be legal tender for the payment of public and private debts. Said Debentures will be paid, upon presentation and surrender thereof with all coupons appertaining thereto maturing after the redemption date, at the option of the holder either (a) at the corporate trust office of Morgan Guaranty Trust Company of New York, 138th Street, New York, New York, N.Y. 10015, or (b) at the main office of European-American Bank & Trust Company in the City of New York, or at the main offices of any of the following: Morgan Guaranty Trust Company of New York in Brussels, Frankfurt am Main, London, Paris, Tokyo and Zurich; the main office of European Banking Company Limited in London; the main offices of Amsterdam-Rotterdam Bank N.V. in Amsterdam and Rotterdam; the main offices of Banque Générale du Luxembourg in Luxembourg, Lausanne and Zurich; and the main office of Swiss Bank Corporation in Basel, Geneva.

Payments at the offices referred to in (b) above will be made by check drawn on a bank in New York City or by transfer to a dollar account maintained by the payee with a bank in New York City.

Coupons due June 15, 1984 should be detached and collected in the usual manner. On and after June 15, 1984 interest shall cease to accrue on the Debentures herein designated for redemption.

DSM (Naamloze Vennootschap DSM) by: Morgan Guaranty Trust Company or NEW YORK, Trustee.

Dated: May 15, 1984

UK NEWS

Scargill seeks to bring down Government

BY OUR LABOUR STAFF

THE MINERS' strike could last until December and is aimed ultimately at the political downfall of Mrs Margaret Thatcher's Government, Mr Arthur Scargill, president of the National Union of Mineworkers (NUM), told cheering miners at a national rally yesterday.

The demonstration and rally in Mansfield, Nottinghamshire, passed peacefully but violence broke out after police closed in the afternoon. About 60 miners were arrested and 12 policemen sustained injuries ranging from bruises to broken ribs.

The NUM said 45,000 attended the march from all over Britain, but police said there were fewer than 8,000 - an estimate which seemed too low to most observers. There were probably 20,000 present.

Mr Peter Heathfield, NUM general secretary, said it was the biggest demonstration in the union's history. It also brought the clearest declaration so far that the strike has wider political aims.

"The mining communities and the leadership of this union will not only win for the miners' union and save our pits and save our jobs, but more importantly we will pave the way for a transformation and roll back the years of Thatcherism," Mr Scargill said.

He added: "We will turn the tide and turn unemployment into employment. We will turn economic pain into economic recovery and above all pave the way for a general election to elect a Labour Government."

Mr Jack Taylor, Yorkshire miners' leader, said: "If we stick together we can not only stop pit closures, we can have socialism."

It is doubtful whether the rally will achieve one of its main aims - to bring the majority of miners in Nottinghamshire who are still working out on strike. The National Coal Board (NCB) said there was a good turnout yesterday with all 25 pits in Nottinghamshire working except one which was closed for maintenance.

The damage which the miners in Nottinghamshire are doing to the NUM's cause was made clear by Mr Scargill when he said the Central Electricity Generating Board's coal stocks had been cut from 32m to 17m tonnes and that the CEBB would be in desperate trouble within eight or nine weeks were it not for the limited amount of coal coming from Nottinghamshire.

This factor is extending his estimates of how long it will take to win the dispute, but Mr Scargill remained optimistic. "In the coal industry itself the stocks position has dramatically deteriorated. Make no mistake, we are on a winner."

The NUM will respond to proposals for talks between its leaders and the NCB made through a third party.

The third party, understood to be the National Association of Colliery Overmen, Deputies and Shiftworkers, will meet Mr Ian MacGregor, the NCB chairman, other board members and officials of the British Association of Colliery Management today at a routine gathering of the Coal Industry National Consultative Committee. The main item on the agenda is a review of the dispute.

Arrangements to get the two warring sides together have been shrouded in secrecy and are highly delicate.

Ford faces inquiry into parts supply

By David Churchill

THE FORD Motor Company is to be investigated by the Monopolies and Mergers Commission following its refusal to change its policy over the supply of car panel parts.

Ford has been criticised by the Office of Fair Trading (OFT) in a report published in March, in which high prices for body panel spares and for trying to prevent competition from independent suppliers.

Sir Gordon Borrie, director general of fair trading, subsequently asked Ford to give an undertaking to change its policy or face a formal Commission investigation.

Sir Gordon said yesterday that no "acceptable undertaking" had been received from Ford and so he was referring the matter to the Commission.

The OFT said that the terms of reference for the investigation included "Ford's policy and practice of refusing to grant licences to other suppliers of replacement body parts which Ford claims are covered by copyright."

The Commission's task will be to determine whether or not Ford's policy is in the public interest. The eventual decision could have widespread implications for copyright law since it challenges a company's right to take action to stop others selling a product it has designed.

The OFT became involved with the Ford case when it received complaints from independent suppliers of body panels which can be fitted to Ford cars that Ford was trying to stop them selling such spares.

Independent suppliers had been selling such parts since the 1960s, but Ford decided in 1981 to take legal action against 13 independent suppliers alleging infringement of the copyright laws.

BPCC offers £52m in agreed bid for Bishopsgate Trust

BY ALEXANDER NICOLL

MR ROBERT MAXWELL yesterday announced plans to increase the capital and broaden the shareholder base of British Printing & Communication Corporation (BPCC), which he controls, by making an agreed bid worth as much as £52.7m for Bishopsgate Trust.

The investment trust's shareholders are being offered BPCC shares or cash at a premium over Bishopsgate's net asset value and three insurance companies which hold 51.2 per cent of Bishopsgate have accepted the offer. Half of the Bishopsgate shares committed so far will be exchanged for BPCC shares and not for cash.

Mr Maxwell has presided over a dramatic turnaround in the fortunes of BPCC since his private company, Pergamon Press, first acquired a stake in the company in 1980. Yesterday, he forecast that BPCC's profits in 1984 will "very substantially exceed" the pre-tax earnings of £2.2m achieved on a turnover of £231m in 1983. He said the company planned a 50 per cent dividend increase.

The exact amount of shares or cash being offered to Bishopsgate shareholders will depend on the trust's net asset value on the day on which the BPCC offer becomes unconditional. Yesterday, Bishopsgate's net asset value was estimated at 203p per share.

BES fund below target

BY TIM DICKSON

CHARTERHOUSE J. Rothschild, a leading UK financial institution, will announce this week that it has raised about £5.5m from private investors for its second Business Expansion Scheme (BES) fund.

The figure falls short of its £7.5m target and will be noted with interest by the many UK investment management groups preparing to launch similar BES funds in the next few months.

The BES, which was designed by the Government to boost the flow of capital to small companies, attracted considerable attention in the 1983-84 tax year. It enables individuals to claim tax relief at their top marginal rate on investments up to £30,000 per annum in a wide range of unquoted UK trading companies, provided the shares are held for at least five years.

About 25 professionally managed BES funds were launched in 1983-84 and well over £40m was invested as highly paid individuals sought a tax shelter.

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Rossetti banks with Cariplo, one of Italy's major banks and the main bank in Lombardy. Rossetti is one of some 500,000 other prosperous Lombardy businesses that make Italy's most successful region: so successful that it accounts for 25% of Italy's entire GNP.

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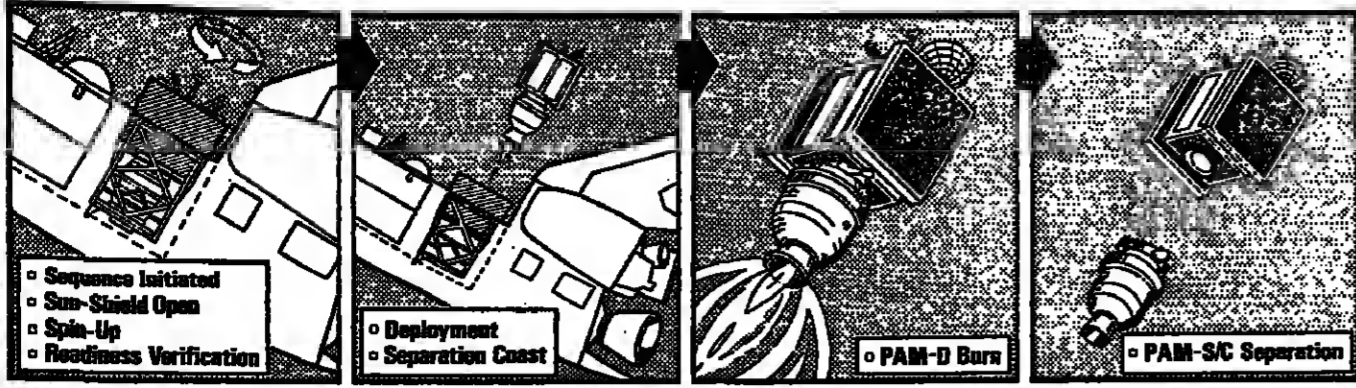
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# TECHNOLOGY

EDITED BY ALAN CANE



The sequence of operations by which the U.S.'s payload assist module (PAM) should boost satellites from the cargo bay of the shuttle. Three months ago, two of the modules failed to work properly—and engineers have still not discovered why

## Ground test for suspect space motor

BY PETER MARSH

A GROUND test of a rocket motor next month in Tennessee could end several months of agonising over the future of an important component in putting satellites into orbit.

The motor is part of a payload assist module (PAM) made by McDonnell Douglas, the U.S. aerospace company. These modules act as an upper rocket stage in satellite launches that use either the U.S. space shuttle or the Delta expendable rocket.

McDonnell Douglas engineers aim to test the motor at the rocket development centre in Tullahoma, Tennessee. The trial could pinpoint the cause of an expensive mishap in February when two PAMs malfunctioned, putting two satellites into the wrong orbits.

Engineers at the aerospace company will decide by the end of May whether to go ahead with the test, which would attempt to repeat what happens when the module fires in space.

In the ground trial, engineers plan to attach sensors to the hardware to follow any possible malfunctions caused by changes in the engine's ignition pattern.

Satellite owners are concerned that the problem could re-occur on later flights.

Already Telesat, a company in Toronto half-owned by the Canadian Government, has re-scheduled a satellite launch with the PAM from next month to mid-1985.

Huber Aircraft, which with the aid of a module was due to put into orbit one of its Galaxy satellites at the end of May, has put back the date by two months.

Satellite Business Systems and AT & T also plan to use PAMs later this year. So far, these companies have not altered the launch dates.

Britain's Ministry of Defence has ordered two of the rocket

motors to assist in the launch of its new SkyNet-4 military satellites, due to enter the heavens in 1985 and 1986.

The PAMs are due to feature in the injection into orbit of another set of military satellites, the NAVSTAR navigation satellite owned by the U.S. Air Force.

McDonnell Douglas hopes that if it can pinpoint the cause of the mishap, it can if necessary change the design of the PAMs

and mollify customers.

The launch programme of the National Aeronautics and Space Administration's space shuttles could be disrupted by a prolonged controversy over the PAM. Over the next couple of years, about a dozen satellites are due to be launched from the shuttles with modules.

The devices are fixed to satellites anchored in the shuttle's cargo bay. The modules boost

the satellites from the shuttle's altitude of about 400 km to the geostationary orbit 36,000 km above the planet that is used for communications.

Alternatively, the modules, which cost about \$5m each, can function as the final stage of a Delta rocket. Deltas are conventional launch vehicles which are expended in the course of taking payloads into space.

On the 10th shuttle flight three months ago, two payload assist modules misfired and put communications vehicles, owned by the Indonesian Government and Western Union, into the wrong orbits. As a result, the satellites are drifting too close to the earth and are useless for communications.

Prior to the accident, PAMs had an unblemished record. They had successfully put into orbit 16 commercial satellites and two military vehicles owned by the U.S. Department of Defence.

Immediately after the mishap, McDonnell Douglas, which makes the modules at a factory in Huntington Beach, California, set up an inquiry team to search for evidence that could pinpoint the cause.

Engineers believe that a small nozzle that protrudes from the rocket's motor may have been faulty. The nozzle, made of composite material, acts as a conduit for exhaust gases that are responsible for the rocket's propulsion. According to one theory, the nozzle on both of the errant PAMs was incorrectly shaped. This could have been either because of a design fault or a problem in manufacturing.

The motors fitted to both satellites should have burned for 86 seconds to put their payloads into the geostationary orbit. But because of the defect, they produced jets for a much shorter time, which sent the satellites tumbling too close to the earth.

## ESA test project

THE EUROPEAN Space Agency is improving its facilities for testing satellites before they enter orbit. An \$18m project, due to finish in 1986, includes a chamber to simulate conditions in space that will be the largest of its kind in the world.

The improved facilities, at the agency's scientific centre in Noordwijk, the Netherlands, are necessary because the world's telecommunications companies are moving toward bigger and more sophisticated satellites.

The new space simulation chamber will test satellites whose central core—or "bus"—is up to 6 metres in diameter. The main feature is an array of lamps. This produces a shaft of radiation, 6 metres wide, which replicates what a satellite in space would receive from the sun.

Each of 19 lamps in the array is rated at 25 Kw, making the beam some 2,500 times more powerful than the artificial illumination in a typical living room.

The radiation includes ultraviolet waves of the kind emitted by the sun but which do not reach the planet's surface on account of absorption by the atmosphere.

ESA's new facility, in which

satellites will stay for up to ten days while sensors monitor how the hardware withstands the radiation, will be marginally bigger than the largest equivalent chamber in the U.S. The testing unit at the Jet Propulsion Laboratory in California has a beam 5.7 metres in diameter.

To complete the job of simulating conditions in space, ESA's test chamber includes equipment to cool with liquid nitrogen the interior to less than -150 deg C. Engineers will reduce the pressure inside the chamber to a billionth of an atmosphere.

The space simulator will be available for the big satellites such as ERS-1, a vehicle to take "snapshots" of the Earth with radar, that ESA plans to build later in the 1980s. It will also be available for a fee to private industry.

In other parts of the improved facilities, workers are installing vibration equipment that will shake satellites of up to 2.5 tonnes anything up to 2,000 times a second. This will simulate the juddering experienced by satellites as they leave the Earth on top of a rocket or inside the U.S.'s space shuttle.

## A combination to excite Einstein and Eisenstein

IF SERGEI EISENSTEIN and Albert Einstein were alive today and could be persuaded to collaborate, the moving picture business would be in for the most exciting time in its history.

The mathematician is well enough known for enunciating the principle that observable phenomena are meaningless until related to the observer and the environment—everything in life is relative.

The Russian Eisenstein is perhaps less well known as one of the pioneering film-makers of the 1920s who postulated the principles of film montage—

the juxtaposition of two shots by splicing them together resembles not so much the simple sum of one shot plus another—as it does a creation. Thus, despite the sequential nature of film, the medium was seen as having the power of additive synthesis.

This malleability of film fascinated the early pioneers of cinema, promising a new language of communication. But since then, the idealism has been lost, overtaken no doubt by the narrative power which comes more readily to a linear medium.

Maybe Eisenstein and Einstein would be stimulated, however, by the new linguistic promise of the video disc; a medium which allows the programme maker or the viewer to display shots, sequences or merely still pictures in any order or permutation at will. The narrative and linear concepts of film become less important, and the original ideas of Eisenstein and others—once known as "intellectual montage"—suddenly become valid again.

Albert Einstein, too, would be fascinated because the video disc creates an expandable time frame in which the relationship between the component parts of every programme is not fixed. And, indeed, in which the relationships of visual images can be controlled or analysed on a mathematical basis. For example, every single frame of the 25 per second which comprises a moving television picture can, on a video disc, have a code number ascribed to it—so that every picture or frame thereafter can be displayed, changed, or re-arranged by numerical processing as with a computer.

### Video & Film

BY JOHN CHITTOCK

Interactive video has found obvious appeal in training. Numerous systems are available, some based on videotape. One example is CAVIS (Computer Audio Video Instruction), a system recently adopted by International Paint to train staff at all levels and in several languages. The individual trainee can sit in front of the CAVIS television screen, view the training programme at a self-paced speed—stopping and starting, going to other parts of the programme in response to questions and so on. Text on the TV screen is generated separately and the progress of the learner is also recorded as data for later inspection by the trainer.

There are, however, creative applications of interactive video that might have fascinated Eisenstein. Thorn EMI has recently provided one example using the VHD video disc player at the Festival du Son et d'Image in Paris, where 12 video projectors were fed pictures from four VHD players for display on a specially constructed "videodrome".

The unique point about this particular demonstration was that the selection of images and sequences from each video disc player was manually controlled by a producer/director—Bernd Kracke—who is a research fellow at the Centre for Advanced Visual Studies at MIT. Thus every "performance" was different and could be responsive to the reactions of the audience.

Alongside this, the announcement of Britain's first major video disc juke box contract,

seems perhaps rather mundane, even if it does place some control of video images in the hands of the public. Consumption headed by Albion Leisure Services and ACE Coin Equipment is installing, initially, 1,000 VHD video disc players in pubs and clubs throughout the UK—built into juke box units. Not quite interactive video, but no doubt the equipment could soon incorporate interactive video games as an additional attraction.

New and innovative ideas such as these are now beginning to catch the imagination of the video business. But undoubtedly the most mind-bending application for the video disc, recently announced in the U.S., at last puts this extraordinary medium into perspective—and firmly in the area that would have fascinated Einstein. The idea comes from Chrysler in an experimental application of video discs as an in-car navigational system.

With the acronym CLASS (Chrysler Laser Atlas and Satellite System), this application of video discs offers the car driver an instant and accurate navigational system. The disc holds 15,000 maps, plus other visual information, and the video disc player constantly links by radio signals to four of the five NAVSTAR satellites—which are in a geostationary orbit. These satellites provide constant reference point to monitor the position of the car—by triangulation—relaying back to the player appropriate data on latitude, longitude, elevation and time. This information in turn automatically "selects" the appropriate map for display from the video disc and superimposes on the map the car's precise position.

Such ideas for video communication are not such a far cry from Eisenstein, who compared film with hieroglyphics: an additive picture language where words become redundant. Pictures are also a much denser way of storing information than words. The problem is that we still have not discovered how to use pictures as a fluent language. The video disc offers great scope for discovery, with the advantage of which Eisenstein would surely approve—of making moving pictures amenable to mathematical analysis. It may seem almost incomprehensible, but it is beginning to happen.

The good news is FERRANTI Selling technology

### Computing Bromcom for Cyprus

BROMCOM, a Bromley-based UK computer company, is to set up manufacturing in Cyprus. The aim is to make computers to sell into burgeoning markets in the Middle East and Turkey.

The company has designed the SuperStar range of computer which are aimed at small and medium-range companies. The range provides office automation tasks and accounting based on the concept of several processors carrying out several jobs simultaneously.

The new plant will be at Famagusta in Cyprus where work is expected to start in the summer. More details from the company on 01-290 6044.

### Process Imperial control

A PROJECT to introduce computer techniques in the teaching of process control and chemical engineers is about to start at Imperial College of Science and Technology.

IBM, the U.S. computer company, is collaborating with Imperial College in the work. It will provide secondment IBM specialists, provide computers, and software and funds for posts at Imperial.

The project will run for three years.

### Acorn seed

ACORN Computers has invested £400,000 in a small communications company called Torus. Set up by Stephen Ives and Stephen Jolley, Torus will market its first product at the end of this month.

This will be a graphics controlled local area network to form a link between IBM personal computers. Colour graphics simplifies the action of communication between machines.

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**A SOLUTION AT THE END OF EVERY RAINBOW**

UK NEWS

# Mercury fights pressure over expansion targets

BY GUY DE JONQUERES

MERCURY COMMUNICATIONS, the privately owned competitor to British Telecom, is resisting strong government pressure to commit itself to firm targets for the future expansion of its UK network and services.

The issue has come to a head in negotiations over Mercury's future licence, due to be published later this year. To help it secure the best possible terms from the Government, the company has engaged an American expert on telecommunications regulation.

He has been seconded from Pacific Telesis, the large U.S. west coast telephone company which has expressed an interest in taking an equity stake in Mercury.

The licence negotiations have led to a marked divergence and some tension between the Department of Trade and Industry and Mercury's management over the company's objectives and development strategy.

The Government wants Mercury to invest heavily to extend its services as soon as possible to the whole of the UK and to give a high priority to poorer and more remote parts of the country, particularly north-east England and Scotland.

The Department of Trade is seeking assurances that Mercury will expand its planned network to certain areas by specified dates and

will aim to ensure that its business is not too highly concentrated in any one area of the country.

There have been suggestions in Whitehall that Mercury is not pursuing a sufficiently aggressive strategy. But the company has told the Government that as a commercial venture its first priority must be to seek a profit not to meet political objectives.

It wants to focus initially on large business customers in cities such as London, Birmingham and Manchester and to expand closely in line with demand.

Mercury is understood to have about two dozen customers and says that it has been taking orders at the rate of about one a week since the start of this year. It has declined to name its customers so far, though it may do so later this year.

It does not rule out operating a nationwide service eventually, if that proves commercially worthwhile. But it has told the Government that it is unwilling to provide unprofitable public services unless it receives a subsidy.

The company is also still negotiating the terms on which it will be able to interconnect with British Telecom's circuits. A satisfactory solution is essential to its commercial future, since it will have to rely

on BT's local network to reach many of its customers.

So far, Mercury has received investment commitments totalling £125m from its shareholders. Cable and Wireless and British Petroleum each own 40 per cent of the company. Barclays Merchant Bank owns 20 per cent, but is seeking a buyer for its stake.

The shareholders have grown increasingly cautious about committing further large funds until they can see a clear prospect of a commercial return. It is estimated a total investment of about £1bn would be required if Mercury were to offer a complete nationwide service.

Much of the investment to date has been to build a 1,100 km land network linking major cities in England. The network uses advanced optical fibre cables, which are being laid in ducts along British Rail tracks.

About 150 km have been laid so far, and the network is due to be completed by next spring. However, Mercury plans to start services between London and New York next August. It also wants to extend links to continental Europe but has yet to win agreement from any European government.

Mercury is also studying proposals for co-operation with Reuters, the international newswire and business information group.

# Over 1m Britons to holiday in U.S.

By Arthur Sandles in Seattle

MORE THAN 1m Britons will holiday in the U.S. this year and spend \$510m there, according to the latest U.S. government estimates.

Mr Michael Heseltine, the Defence Secretary, backing up his major reorganisation of the Ministry of Defence (MOD) outlined measures which are already toughening terms for defence contractors.

However, the White Paper also details new policies which foreshadow the contracting-out of many of the armed services' support functions. This seems likely substantially to increase defence business opportunities for British companies.

Mr Heseltine yesterday called his reorganisation of the MOD "the greatest single overhaul of machinery for developing and coordinating defence policy for two decades."

The outline of the reform, first announced in March, is in the White Paper. Precise details will only be published in a separate White Paper in July, with the reforms effective from January 1 1985. The reorganisation is likely to result in a radical loss of power for the chiefs of the three armed services.

Yesterday's White Paper, a wide ranging review of Britain's defence activities, concentrates on two key areas designed to back up Mr Heseltine's reforms. It contains the fullest statement yet of the MOD's drive to increase competition in de-

# Better value defence emphasised

BETTER VALUE for money from Britain's £2bn defence equipment bill and a shift in resources from support services to the armed forces on the front line are the twin emphases of the annual Defence White Paper (policy document) published yesterday.

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ence business. It also details government policy designed to shift resources from the so-called "tail" of the defence forces to their "teeth," or front line activities.

Britain's defence budget for 1984-85 is £17bn, of which nearly £2bn or 45 per cent will be spent on weapons.

The major measures are:

- Prime contractors must introduce competition in their subcontracts whenever possible.
- Companies will be invited to ensure a continuing shift in the balance of the defence programme towards additional frontline capability.

The White Paper details pilot projects which are already underway or planned across a wide range of support activities. This suggests that, if the projects are successful, many support services will be contracted out to private enterprise in the future.

The pilot projects include:

- Warship refitting. A major study is underway which could result in the contracting out of refitting work normally done under MOD management at the Royal Dockyards. Meanwhile two ships - probably a frigate and a conventionally powered submarine - will be offered for competitive tender, with work to begin later this year.
- Development contractors will not necessarily be given initial production contracts, which will be open to competition where possible.
- Small companies "with their qualities of enterprise and willingness to innovate" will be brought into the competitive process wherever possible. "We intend to arrange more open tendering to allow these companies greater access to our procurement procedures."
- The White Paper points out that the competition policy will "take some time to work through. It is too early to generalise about the results." But it says that the extension of competition should lead to "very significant cost savings which will

contracts showed savings of over 30 per cent as a result, the White Paper says.

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# Bridget Bloom, Defence Correspondent, looks at the Government's latest policy document on defence, which places greater emphasis on putting out more contracts for equipment to competitive tendering.

ons, mostly made by British companies. The defence budget has increased by nearly 20 per cent since 1979.

Although the White Paper does not examine the ramifications of the decision, announced last year, to abandon from next year the Nato target of a 3 per cent real increase a year in the defence budget, it does note that "the energies and livelihood of more than 700,000 people in Britain are engaged in the industrial activity associated with the defence effort." The MOD is the single largest customer of British industry.

Some 20 per cent by value of contracts totalling £8.6bn which were placed by the MOD in 1982-83 were awarded following competitive tendering. Measures to increase this percentage are being progressively introduced. Analysis of some recent

# Alliance proposes bigger EEC budget

BY PETER RIDDELL, POLITICAL EDITOR

AN ENLARGED EEC budget, together with a co-ordinated programme for economic and industrial recovery, forms the centrepiece of the SDP/Liberal Alliance manifesto for the European Assembly elections on June 14.

The manifesto, entitled "Let's Get Europe Working Together," was launched yesterday at a series of press conferences throughout Britain. The Conservative and Labour Parties are expected to publish their manifestos early next week.

The emphasis in the Alliance document is unashamedly pro-European in favour of an expansion of the role of EEC institutions, including the parliament, and in favour of strengthened European co-operation for conventional defence.

In the introduction, Mr David Steel, the Liberal leader, and Dr David Owen, of the SDP, say that "we cannot evade the fact that our future lies in the European context. It is hopeless to try to fight in Brussels in a negative chauvinist spirit, obsessed with the past."

"Too many British political leaders have concealed their inability to provide imaginative direction to the Community behind a surly anti-Europeanism. We have no patience

with these attempts to play to the gallery of outdated nationalism. True leadership should make it clear that Europe has got to work better - and that Britain's vital interests will be best served if it does."

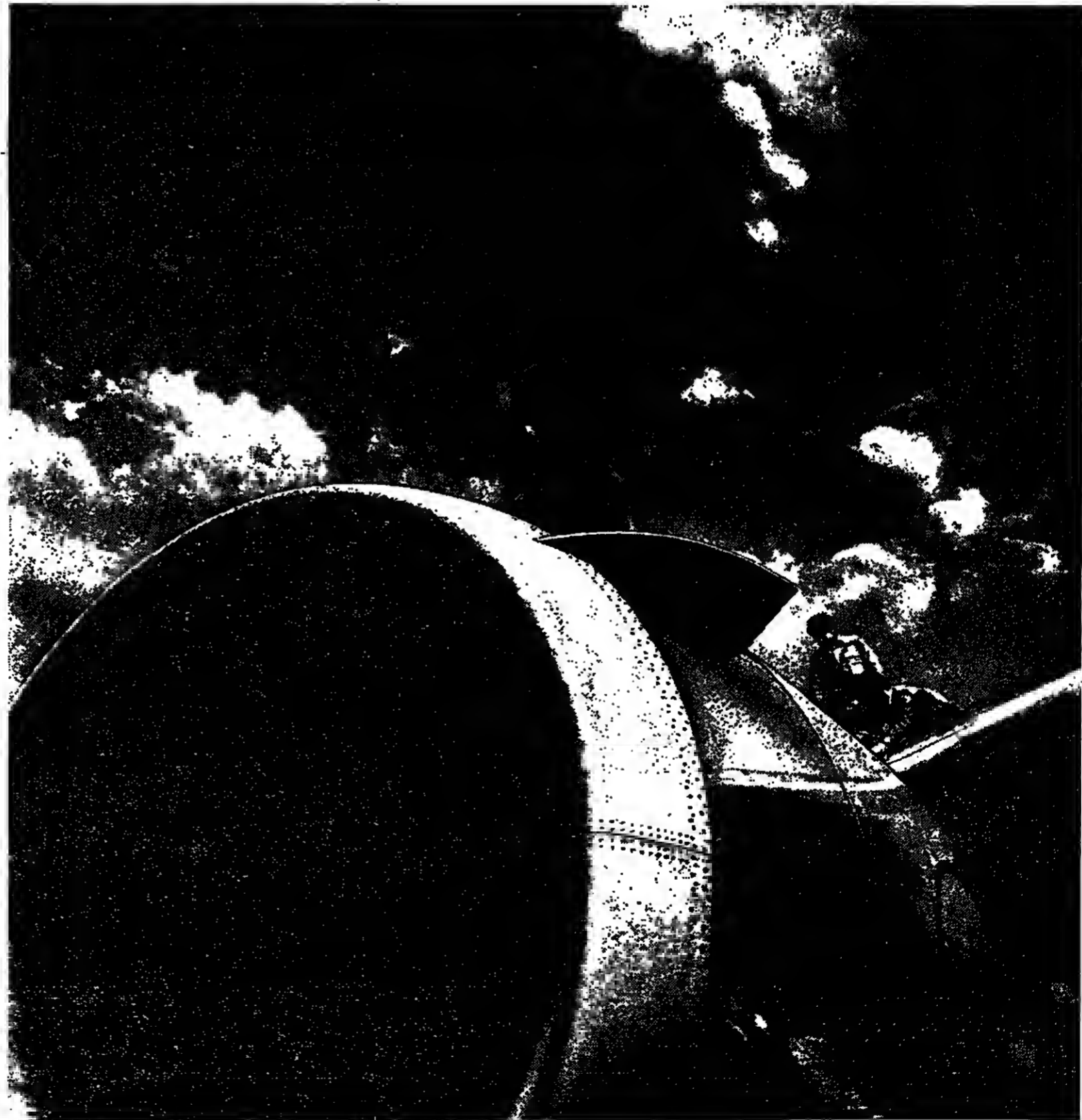
The manifesto plays down the significance of the problem of the EEC budget, which represents only a small part of the total economic picture of the effects on the UK of British membership. Over-concentration of spending on agriculture is as much a result of failure to establish other common policies as a consequence of the way the Common Agricultural Policy works.

In particular, the manifesto says: "A budget constrained by the current ceiling of revenue-raising will not allow sufficient headroom for the other expenditure necessary to achieve the other policy objectives which we advocate. We can fund the industrial, regional and social policies which Europe so badly needs only if we are prepared with our partners to find the money to pay for them."

The Alliance urges a reform of the budget via linking revenue-raising to the proportionate wealth of each member state

# "What singles out Lufthansa is its dedication to advanced technology."

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# Film campaign seeks to boost audiences

BY RAYMOND SNODDY IN CANNES

THE BRITISH film industry is to launch a £2m campaign to attract more people to UK cinemas and increase the market for British films abroad.

The British Film Year, which will begin next April, was announced by Sir Richard Attenborough, the director of Gandhi, at the Cannes Film Festival.

The aim of the year, will be to attract at least 4 per cent more people to the cinema in the UK. This would increase revenues by more than £1m, with an estimated extra £3.5m generated by higher sales of pre-recorded cassettes. Last year attendances at British cinemas totalled 69m, compared with more than 1bn in 1946.

The emphasis will be on new films. Premieres will be held in many British cities and in the major capitals of the world as part of British film weeks.

The Government has promised nearly £500,000 to support the plan. The film industry has already pledged £300,000. The aim is to raise another £1m from film companies and a further £1m from sponsorship.

Sir Richard said yesterday that the success of films such as Chariots of Fire and Gandhi presented an opportunity to stop the declining trend of cinema audiences and get really worldwide distribution for British films.

# Jaguar 'worth £250m'

BY KENNETH GOODING, MOTOR INDUSTRY CORRESPONDENT

JAGUAR, BL's luxury car subsidiary, is worth about £250m, according to an investor's guide produced by Professor Krish Bhaskar, head of accountancy and finance, and his team at the University of East Anglia.

It suggests that, if Jaguar continues to perform as well as it has in the past two or three years, the stock market value could rise to nearly £300m after the company is returned to the private sector later this year.

Three factors in particular, how-

ever, would drive down the share price:

- The departure of Mr John Egan, the chief executive.
- Anything which adversely influenced revenue in the U.S., Jaguar's biggest market.
- If the new saloon, code-named XJ40 and the replacement for Jaguar's best-selling XJ6, proved not to be a success.

"Jaguar: an investor's guide," £32 from University of East Anglia, Norwich NR4 7TL.

# New terminal for North Sea gas

By Andrew Fisher

ASSOCIATED British Ports is to spend £2m on a new deepwater terminal at the Humber port of Immingham to handle gas from the North Sea.

The facility will be used by tankers carrying liquefied petroleum gas (LPG) from Flotta and Sullom Voe for both Calor Gas and Conoco.

The terminal will also be used for the export of LPG. Completion is scheduled for mid-1985.

# Toshiba confirms factory plan

By Carla Rapoport

TOSHIBA, the Japanese electronics company, confirmed yesterday that it plans to open a microwave oven factory in Plymouth, south-west England.

Production will begin in July next year and will eventually create some 200 jobs. The total investment will amount to about £3.6m.

The new plant will be producing about 20,000 units a month when it is fully operational.



THE MANAGEMENT PAGE: Small Business

The double life of Heather Kearsley

BY ELAINE WILLIAMS

LIVING the earthy life of self-sufficiency seems rather at odds with running a computer software company. But that is the double existence of Heather Kearsley, founder of Compsoft.

Until four years ago she lectured part-time in social psychology in order to provide enough income to support her horse, goats and chickens. Then she started selling a computer program written by her husband, Nick Hogan, "out of interest." Hogan also had a part-time job contracting his computer skills when necessary.

Her decision to start selling Hogan's program full-time came during one Easter break. She visited all the microcomputer dealers in the UK. In three weeks Kearsley came away with £3,000 worth of orders. To some one earning £2,000 a year for 16 hours lecturing a week this seemed like a fortune.

Heather Kearsley says that her husband, a born pessimist, was convinced that the company would not succeed. Eighteen months later, however, he joined it as managing director.

Kearsley was not without her own doubts. For the first six months after setting up the company she could not sleep. "I went through an identity crisis. For the first time I had to be decisive and give other people orders," she says.

Initially she operated from home. When people called and asked for a particular department "I would answer the phone with one accent and then pretend I was someone else just to make the company seem bigger," Kearsley says.

Then at a party she met a computer programmer and hired him. His task was to help improve the software and code the program so that it could run on other computer models.

Hogan's program was originally designed for Commodore PETs. It was a database program which allows users to store information in a logical



Heather Kearsley: the top five computer companies have all adapted Compsoft's products

manner. Now it can be run on many models. The top five computer companies in the world, including Xerox, Wang and Digital Equipment, have all adapted Compsoft's products.

The company's main product is called Delta and is also a database management system. In the two years that this program has been on the market it has been used for 2,000 to 3,000 different applications and sold to about 5,000 customers throughout Europe.

Some of the more unusual uses include keeping lists of greyhounds at a racetrack, organising police beat rotas and keeping track of North Sea support vessels. A local authority bought Delta to list all its marble covers.

British forces used Delta to make lists of prisoners taken during the Falklands conflict. Ironically, before the war the Argentinian navy bought the program for managing its fleet. Today the company has a turnover of £1.5m which compares with £50,000 for the first year's sales. Growth is more than 100 per cent a year. Employees have risen to 35, of which more than 50 per cent are women. Kearsley is keen to encourage other women. "I am not hidebound by convention," she comments.

The technical service department which helps sort out cus-

Why Europe needs local job creation

BRITAIN MAY have the highest number of unemployed of any country in Europe — but it can also boast a leading role in local initiatives to create new jobs.

Based on the evidence of several recently researched case studies, a report published by the Economist Intelligence Unit urges more local and regional authorities throughout Europe to encourage the expansion of existing and creation of new businesses.

"Unless the public sector recognises that the claims of local action are such that public funds should be provided as the mainstay of support, then local action will peter out in a few years, warns the report. This will require a willingness in most countries of Europe to acknowledge that such funds are more effectively spent in that way than in expensively persuading invisible investors that there is only one place in Europe worth investing in — the town or city doing the promotion."

The report considers the history of projects in the UK, the Netherlands and France, including UK enterprise agencies, British Steel Corporation (Industry), the job creation arm of the steel corporation, and the joint project between the Dutch electrical giant, Philips, and the private

British company, Job Creation, to alleviate the effects of a major closure in The Hague.

The Philips project "shows that a prime sponsor, private sector in this case but public sector in others... can make a real contribution to the community with which it is concerned." A bold commitment, moreover, induces others to join the scheme for, as the report points out an initially sceptical municipality, The Hague, has asked Job Creation to develop a second Enterprise Centre for small firms.

The study suggests that communities, local authorities and local employers may be surprised by the energy, talent and initiative lurking in even the most depressed areas. But while the cost of local initiatives can be small compared with other forms of expenditure, it is crucial that their objectives are clearly defined. New companies, for example, should not be helped to put other companies out of business by producing a product or service for which there is already sufficient local supply. It is also essential that the right kind of people are recruited. "They must be able to feel a sense of identity with the anxieties and hopes of those who have taken the risk of setting up a business on their own, and at the same time be able to communicate effectively with officials, bankers and lawyers."

Creating New Jobs in Europe; the role of local initiatives. Available from Spencer House, 27 St James's Place, London, SW1. Price £30.

Tim Dickson

In brief...

AT THE beginning of the year William Page began to preach what he practices, and vice versa, when he started up a publication called Small Firms' Outlook. Now in its fifth issue, the 16-issue-a-year magazine includes articles and information useful for the one-man band and those who have progressed further. Topics covered include the law on safety of employees and visitors; how to get your postage; how to advertise in your local newspaper or cinema; how to cut your telephone costs; and how to get market research at the cheap. A year's subscription costs £18.50 (including postage). Details from: Beech Tree Publishing, 10 Watford Close, Guildford, Surrey GU1 2EP.

A SPECIALIST handbook for bricklaying has won this year's

Opportunity Wales first prize of £2,500. Gary Lewis and Terry Huxley of Excalibur Handtools, based on the Merthyr Tydfil Industrial Park. Second prize in the competition, sponsored by the National Enterprise Development Centre and supported by the Design Council Wales and BTW Wales, went to Cynlyn Evans, whose company, Solar Sounds, makes a computer-based aid to teaching music. Lewis and Huxley's "Point-master" is claimed to be the first tool made specifically for pointing brickwork.

THE Irish Republic's Industrial Development Authority has recently launched a set of 12 leaflets on Starting Your Own Business. They cover everything from planning, premises and keeping the books straight to exporting, being an employer and insurance for a small firm. IDA, 42 Lower Mount Street, Dublin 2.

Co-operatives

A role in regeneration?

BY JOHN HANDS

CO-OPERATIVES have flourished when existing social and economic systems have failed to supply basic human needs. They were born of a struggle to overcome deprivation and inequality caused by the exploitation of workers following the industrial revolution. They spread during the depression in the U.S., helped reanimate several European industries and housing programmes in the aftermath of the Second World War, and revived failing agricultural communities in Asia.

But has this unique system of member-owned and controlled enterprises anything to offer a modern economy that is in its worst recession since the war, and that is undergoing a technological revolution which many believe will prove as traumatic as the industrial revolution?

The authors of a book published today not only say yes; they suggest that co-operatives have a vital role to play in a strategy for economic regeneration.

Peter Cockerton and Anna Whyatt support this claim by pointing to the record growth in worker co-operatives in Europe over the past five years, with over half a million people now collectively owning and running their own businesses. The greatest increase in numbers happened in co-operatives has taken place in the UK with a 27-fold increase since 1976, giving a present total of some 6,000 worker-owners.

It is not only the record levels of joblessness which have been responsible for this trend, according to Cockerton and Whyatt. "While the desire to create jobs in the face of high unemployment is a powerful incentive, the debates of the past 20 years concerning industrial and local democracy and the general demand for decentralisation have created a climate in which self-management has emerged as a basic requirement for growing numbers of people."

But their book, *The Workers Co-operative Handbook*, is not primarily polemical; it is a practical guide to setting up a workers co-op. And one of its case studies illustrates both the pitfalls and the potentials of the new breed of co-operatives.

Computercraft was set up in 1979 by six people who had conventional programming jobs in the computer industry. The main aims of the group were

for the members to be able to control (and thereby enjoy) their own work, to undertake projects that use computers in a socially responsible manner, to offer advice on computerisation to community and other similar groups, and to demonstrate that a high technology co-op was a viable proposition.

The co-op started up very rapidly. That was probably its first mistake. Within four months of the initial meetings, it had registered, found offices and won its first contract. But, talking to two of its founder members, it is clear that the group had not fully thought through its precise objectives and methods. Lacked business experience, and was undercapitalised. According to Phil Cole: "We exploited ourselves for the first three years." There were also major differences of view as to what a computer co-op actually was.

The problems were eventually resolved when two of the founder-members left to set up a similar project in Australia. This coincided with the co-op winning several substantial contracts.

Longer-term

Computercraft is now an established software house specialising in consultancy, software development, training and support on microcomputers. Its clients include social agencies like the National Enterprise Development Centre, the Commission for Racial Equality and the Child Poverty Action Group, plus commercial organisations.

Typically for a new, small business, the immediate pressures of work and clients' demands took priority over longer-term considerations. But, as a co-operative committed to "informed democracy" and consensus decision-making at weekly business meetings, this weakness was recognised. The co-op members therefore decided on some social/strategic planning weekends together.

As a result, the co-op now has an embryonic strategic plan which provides for a more intensive software production and the acquisition of marketing and sales expertise.

Overall the members feel very positive about working as a co-operative. The problems they have faced have more than outweighed by the benefits of

working in an environment that they control, with people who share the same aims and where they are able to do the sort of work they want to do.

But it is clear that Computercraft learned the hard way, through trial and error. As another founder member, Richard Collings, put it: "If we had been a conventional business, we'd have gone bust." It was only a share commitment to the original aims which sustained them through the difficult times.

It is here that *The Workers Co-operative Handbook* could prove so valuable. Without postulating, it sets out all the relevant information on what is needed to start and run a workers' co-operative; the legal, financing, business planning and sources of advice; and case studies of requirements; view as to what a computer co-op actually was.

The body which published this handbook, the Industrial Common Ownership Movement (ICOM), has been the major driving force behind the enormous growth of worker co-operatives in recent years. The figures for these co-operatives has been estimated at 5 per cent a year — a figure substantially less than the figures quoted by the Department of Industry for all new businesses. The amount of public investment has been minimal. In 1983 this was £3m (compared with £5.4m public investment in the private sector) and this generated approximately 2,000 new jobs. In crude terms £1,500 per job would seem a better investment than the £7,000 per annum cost of maintaining a person in unemployment.

Against this background, it is difficult to argue with Cockerton and Whyatt when they suggest that the worker co-operative principle "may not just be a social ideal. It could hold the key to a new type of economic revival."

*The Workers Co-operative Handbook* by Peter Cockerton and Anna Whyatt, ICOM Publications, 14 Cornhill Street, London WC2, price £3.75 inc p and p.

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# Businesses for Sale

**Assets & Business For Sale**  
Keighley

- Freehold interest in sand and aggregate quarry, approximately 20 acres of which some 6 acres unquarried. Licoice for non-toxic tipping.
- Metal recovery merchants business. Operates from 2 acre freehold yard with weighbridge. Plant includes baler shear and aluminium furnace. Turnover approximately £1 million per annum with weekly throughput of some 250 tons. Approximately 20 employees.

Enquiries to Alastair Jones, F.C.A., Joint Receiver and Manager, Peat, Marwick, Mitchell & Co., 45 Church Street, Birmingham B3 2DL. Telephone: 021-233 1666. Telex: 337774.

**FRAMED PICTURE MANUFACTURERS**  
For sale by the joint receivers as a 'going concern,' a framed picture manufacturers based in West London. Turnover around £700,000. Customers being major chain stores and furnishing group. Tax losses available. Contact Mr B. Mistry, Begbies, 3 Raymond Buildings, Gray's Inn, London WC1R 5BH, telephone 01-242 6939.

**Lace Manufacturer**  
For sale as a going concern  
Six looms for Nottingham furnishing lace.  
Four terylene warp knitting machines with warping plant.  
Skilled workforce of 22.  
Freehold factory of 1,500 sq metres.  
Location - Darvel, Ayrshire.  
Further particulars from  
Reffem/CSJ  
Tel: 041-248 7932  
Telex: 779338.  
100 Wellington Street, Glasgow G2 6DJ.

**Armada Carpet Company Limited in receivership**  
For sale as a going concern. The Company has been trading for 12 years as carpet retailers and supplies carpets at the top end of the retail market. Contract work is also undertaken.  
Turnover for the year ended June 30th, 1983 is estimated at £800,000. There are 21 employees at six locations including leasehold retail premises in Bristol, Bath, Gloucester and Thornbury.  
For further details please contact Jack Lewis, Arthur Young McClelland Moores & Co., Froomsgate House, Ruppert Street, Bristol BS1 2QH. Tel: (0272) 290808.

**SAWMILL**  
Opportunity to purchase fully equipped sawmill near Forfar on main road and close to home-grown timber supplies.  
★ Two mills, log handling and ancillary equipment, vehicles, etc.  
★ Additional joinery workshop (leased to tenant)  
★ Includes a modern 3-bedroom bungalow for manager  
★ Offers over £75,000 are invited  
Further information from Mrs A. Galloway:  
Touche Ross & Co.  
100 West Nile Street, Glasgow G1 2QQ  
Tel: 041-331 1241

**NORTH SEA OIL SERVICE COMPANY**  
BASED IN ABERDEEN  
FOR SALE AS A GOING CONCERN  
PROFITS BEFORE TAX AVERAGE £100,000 PER ANNUM  
Principals only apply  
Write Box G7719, Financial Times, 10 Cannon Street, London EC4A 4BY

**COMPUTER PERIPHERALS**  
An opportunity to acquire an expanding and profitable distributor of computer peripherals and supplies to both trade and end users. Turnover £2 million. Modern leasehold premises in North London. The activity is outside main interests of parent company.  
Principals only please write to Box G7718  
Financial Times, 10 Cannon Street, London EC4A 4BY

**FOR SALE AS A GOING CONCERN**  
**FILM/VIDEO PRODUCTION HOUSE**  
Full production facilities located 15 miles from London, capable of being consolidated with compatible operation.  
Turnover approx. £600,000.  
Substantial tax losses available. Would ideally suit a profitable film maker who could additionally benefit from rationalisation.  
A merger could also be contemplated. Alternatively we would consider the purchase of a profitable film production house.  
Principals only please contact:  
J. CREAMER, MACINTYRE HUDSON  
Chartered Accountants  
31 Castle Street, High Wycombe, Bucks  
Tel: 0494 41226

**Computer Aided Design Bureau**  
Nr Wimborne, Dorset  
Providing PCB, IC and mechanical designs for major UK based companies.  
Major assets include modern leasehold premises, CALMA computer systems, office furniture and equipment. Also included are standard and in-house software conversion programs.  
For further information please apply in writing (Principals only) to E.E. Oakley-White F.C.A.  
Deloitte Haskins & Sells  
Wharfedale House, 26 Bernard Street, Southampton SO8 1OL

**RUBBER COMPONENT MANUFACTURER**  
FOR SALE  
Located in freehold premises in the South of England.  
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Financial Times, 10 Cannon Street, London EC4A 4BY

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**FOR SALE**  
SMALL SWEDISH WORK AND WELDING COMPANY  
This family business, located in South Humberside area and established for 25 years, is for sale as a going concern due to the forthcoming retirement of the principal. Long established factory with turnover in excess of £200,000 and trading profitably.  
Further details from:  
Box G9724, Financial Times, 10, Cannon Street, London EC4A 4BY.

Businesses for Sale

STRUCTURAL STEEL FABRICATION AND ERECTION, METAL TREATMENT, BUILDING DESIGN AND CONSTRUCTION

Modern Engineers of Bristol (Holdings) PLC and Subsidiary Companies
Offers are invited for the trading assets and undertakings of the businesses comprising this long established group of companies.

Thornton Baker

FOR SALE 27% STAKE IN BERWICK SALMON FISHERIES PLC

Balance held by over 100 other shareholders - Stock Exchange dealings under Section 163 (2) - owns profitable Salmon Fishing Rights of River Tweed

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CONTRACTS & TENDERS

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Financial Directorate - Extern contract section
Extern Call for offers No. 1536

Following our advertisement of the call of Tender No. 1536 for the extension of Mehrdeh thermal power station by the addition of 2 x 150 MW units which is mentioned in the daily official Bulletin No. 4897 dated 15/1/84.

Oamaseus 1984 THE GENERAL DIRECTOR OF PEE ENG. R. IDRISI

Appointments

Vacancy of Chief Public Health Inspector

Dubai Municipality announces the vacancy of Chief Public Health Inspector with accordance of the following specifications and conditions:

Basic qualification and experience.

- 1. Applicant should have obtained a Degree or Diploma in Public Health Inspection or Environment Health from a recognised Educational Establishment in Europe or America.
2. Applicant should also have passed Diploma Examination in Meat and other Foods Inspection, or its equivalent qualification.
3. Applicant should at least have experience not less than 10 years in this field, but should not be more than 45 years old.

Dh. 6,000/- according to the qualifications and experience.
The selected candidate will be given a free furnished accommodation with free water and electricity, in addition to means of transport.
Applications shall be received through registered mail addressed to Director of Dubai Municipality not later than 15.6.84.

DIRECTOR DUBAI MUNICIPALITY P.O. Box 67, Dubai, U.A.E. Telex: DB 45688 BALDYA

f Publico 8456

C. ITOH & CO., LIMITED To the Holders of the Bearer Depository Receipts Public Notice of Resolutions of the Board of Directors concerning the Issuance of Bonds with Warrants

TO: ALL SHAREHOLDERS

Please be advised that the issuance of bonds due 1989 with warrants to subscribe for common stock of the Company, the particulars of which are described hereunder, were duly approved at meetings of the Board of Directors held on April 25 and May 4, 1984 respectively.

C. ITOH AND CO., LTD 68 Kitayutoromachi 4-Chome Higashi-Ku, Osaka Isao Yokokura President and Director

PARTICULARS OF THE BONDS DUE 1989 WITH WARRANTS TO SUBSCRIBE FOR COMMON STOCK OF THE COMPANY.

- 1. AGGREGATE AMOUNT OF ISSUE: U.S.\$50,000,000 and the sum equal to the total principal amount of replacement bonds to be issued in case of loss, theft or destruction of the bonds, subject to appropriate evidence and indemnity being obtained.
2. ISSUE PRICE: 100 per cent of the par value of the bonds.
3. INTEREST RATE: 7.50 per cent per annum of the par value of the bonds.
4. DATE FOR SUBSCRIPTION PAYMENT AND DATE OF ISSUANCE: May 22, 1989.
5. FINAL REDEMPTION DATE: May 22, 1989.

- 6. DETAILS OF THE WARRANTS
(1) TOTAL ISSUE PRICE OF SHARES PER WARRANT
The total issue price of shares that may be subscribed for upon the exercise of a warrant shall be 1,136,500 Yen (this amount being obtained by translating the par value of the bonds at the exchange rate of 227.30 Yen for US\$1.) per bond with par value of US\$5,000.
(2) ISSUE PRICE (WARRANT EXERCISE PRICE) OF SHARES ISSUED UPON THE EXERCISE OF A WARRANT
The initial warrant exercise price shall be 340 Yen per share. Except in certain cases, no fraction of a share will be issued upon the exercise of a warrant.
(3) ADJUSTMENT OF THE WARRANT EXERCISE PRICE
The initial warrant exercise price per share may be adjusted from time to time in accordance with the following formula in the event that after the issuance of the bonds the Company shall issue new shares of its common stock for a consideration less than their then current market price:

Table with columns: Warrant exercise price after adjustment, Warrant price after adjustment, Number of shares issued, Number of shares to be issued, Current market price per share.

Appropriate adjustments shall also be made in the event of stock dividends, the free distribution of shares, the issuance of any convertible bonds with a conversion price inferior to the then current market price or upon the occurrence of other specified events. However, unless provided by law, the warrant exercise price per share shall not be lower than the par value per share of common stock of the Company.

- 7. WARRANT EXERCISE PERIOD
Warrants may be lodged to be exercised at any time on and after June 5, 1984 up to and including May 4, 1989 (local time); provided that the payment of the amount of the warrant exercise price may be made up to and including May 19, 1989 (Japan time).
8. ASSIGNMENT OF WARRANTS
Warrants may be transferred separately from the bonds.
9. PARTIAL EXERCISE OF WARRANTS
Partial exercise of a warrant is not permitted.
10. AMOUNT OF THE PORTION OF THE ISSUE PRICE OF THE SHARES TO BE ISSUED UPON EXERCISE OF WARRANTS WHICH WILL NOT BE TRANSFERRED INTO THE CAPITAL:
The amount of the portion of the issue price of the shares to be issued upon exercise of warrants which will not be transferred to the capital shall be the amount of the issue price of the relevant shares to be issued deducted by the amount to be transferred to the capital. The amount to be transferred to the capital shall be the amount which is the issue price of such shares multiplied by 0.5. Any fraction less than one Yen resulting from the calculation shall be counted as a full Yen; provided that in no case shall the amount to be transferred to the capital be reduced below the par value of registered shares of common stock of the Company.

- 11. PLACE OF OFFERING
Overseas market (excluding the U.S.A.) but primarily in Europe.
12. OFFERING METHOD
Public offering by underwriting on a standby basis by the following managers:
THE NIKKO SECURITIES CO., (EUROPE) LTD.
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Essential criteria are: UK BASE ESTABLISHED GROWTH PATTERN HIGH ADDED VALUE (MANUFACTURERS) MINIMUM TURNOVER £5 MILLION PA
Replies from potential vendors, which will be treated in the strictest confidence, should be sent to: Industrial Division M.D., Box G9098, Financial Times, 10 Cannon Street, London EC4P 4BY.

WANTED IMPORT TRADING COMPANY

We are a well-established international group and wish to acquire a company handling consumer goods such as children's clothes, housewares, tableware, giftware and luggage. To interest us a company should have annual sales of over £1 million (preferably well over), be based in the South East and be involved with any or all of the above products.

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Client companies and investors some by whom we are retained, wish to find and select suitable companies for: OUTRIGHT PURCHASE MAJORITY OR MINORITY EQUITY INVOLVEMENT INJECTION OF VENTURE CAPITAL

WANTED

Well established private specialist casting company requires an Anodising/Painting business for metal applications. B.O.D. approved preferred but not essential. The buyer would require to operate on current customer base complemented by our own input. Minimum disturbance of present management and staff. Would consider acquiring a holding as an alternative.

WANTED

BUSINESS WITH A FUTURE
Private company wishes to take equity stakes in existing businesses that have real potential for the future. All proposals will be thoroughly examined and evaluated in strictest confidence by our in-house team of experts. In the first instance please write giving as much detail as possible to: The Managing Director ASHWELL INVESTMENTS & MANAGEMENT LIMITED 42/48 New Broad Street London EC2M 1QY

TRANSPORT/HAULAGE COMPANY

Well established private specialist casting company requires an Anodising/Painting business for metal applications. B.O.D. approved preferred but not essential. The buyer would require to operate on current customer base complemented by our own input. Minimum disturbance of present management and staff. Would consider acquiring a holding as an alternative.

U.K. BASED COMPANY

with international interests is examining opportunities in Mediterranean resort areas
The company has strong management resources covering local and international transport and marketing. 0/10 participation in transport and marketing. 0/10 participation in transport and marketing. 0/10 participation in transport and marketing.

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We are a publicly quoted marketing services company operating in a number of areas of the advertising and marketing industry. The company is recognised as the industry leader in its prime areas of business operations. We are seeking to acquire controlling interests in complementary companies serving the UK or international advertising, marketing and public relations industries achieving a minimum pre-tax net profit of £100,000 pa.

INDEPENDENT LONDON BUSINESSMAN

Wishes to acquire as going concern or for re-investment and development a small business in a growing house or part (eg individual lists or lists) ideally general non-fiction, scientific or reference but must have good potential.

FINANCIAL NEWSLETTERS PUBLISHERS REQUIRE TO PURCHASE NEWSLETTERS DIRECTED AT THE FINANCIAL SECTOR

All replies in strictest confidence to Box G9723, Financial Times, 10 Cannon Street, EC4P 4BY

Publicly quoted Company

wishing to diversify its interest is looking to purchase a small business, extrusion company with a view to product development.

EAST ANGLIA BASED FOOD MANUFACTURING COMPANY

wishes to purchase similar Small/Medium Organisation to the one above. The company is a well established and profitable food manufacturing company with a view to product development.

80% OF UNQUOTED PLC FOR SALE

Available with clean balance sheet, net assets £100. 3m 10p shares issued, more than 500 shareholders. £400,000 tax losses

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Wholesale Computer Supply operation, based in Hertfordshire. Computer stationery, software, hardware, facilities covering all aspects of computer and data media. 710 £400,000 O.A. increase.

SHELL FOR SALE

Substantial equity interest 25% (and 20% control) of small listed company for sale. Company is profitable with surplus cash balances in excess of £5m.

BUSINESS FOR SALE

Yorkshire Fitted Bedroom Furniture Company with excellent credentials. Reasonable offer in excess of £1m. will show 30% return (owner wishes early retirement).

PART INTEREST FOR SALE IN NIGHT CLUB

2 a.m. LICENCE
Up to 50% interest available in London Night Club £50,000. Box G9728, Financial Times, 10 Cannon Street, London EC4P 4BY

DEPARTMENT STORE, for sale, as going concern, including freehold property in Westborough market town. Turnover approaching £500,000. If bought, Write Box G9726, Financial Times, 10 Cannon Street, London EC4P 4BY.

FOR SALE or Investment Opportunity - Massages & Colour Printing, £200,000 Turnover. Write Box G9710, Financial Times, 10 Cannon Street, London EC4P 4BY.

YACHT MOORING, South. All services. Excellent. Write Box G9727, Financial Times, 10 Cannon Street, London EC4P 4BY.

Business Wanted

TOILETRY AND COSMETIC COMPANIES REQUIRED

In addition, product lines of major organisation considered. Current sales should exceed £1m. We are a manufacturing, marketing and distribution company in toiletry products.

Is there a gap in the market?

Are you a Specialist Chemist with a good commercial idea and contacts to make it a profitable success? This flourishing Chemical Company could provide the necessary Financial/Technical Back-Up required.

Derby Luminescents Limited

Millmarsh Lane, Brimleydown Enfield EN3 7QW

Handwritten signature or note at the bottom of the page.



THE ARTS

Gardner Centre, University of Sussex/William Packer

Monte Carlo Philharmonic/Festival Hall

Sir Roland Penrose and Lee Miller remembered

Sir Roland Penrose, who died at Easter at the age of 83, occupied a peculiar, largely self-created position in the British art world...

And extraordinary an enterprise the more we consider it; and he was a leader of the Surrealist Group that came out of it...



Sir Roland Penrose in his studio at Farley Farm

Under their music director Lawrence Foster, the Monte Carlo orchestra called at the South Bank on Sunday with an all-French programme...

David Murray
Under their music director Lawrence Foster, the Monte Carlo orchestra called at the South Bank on Sunday with an all-French programme...

ing delicate passion. That was one of many passages to which Foster brought a sensitive ear, achieving magical textures; the Oriental glitter of 'L'aidronnette' was more subtly balanced than in any routinely efficient performance.

Mitsuko Uchida/Radio 3

Andrew Clements

Miss Uchida's BBC lunch-time recital from St John's, Smith Square, yesterday paired Schubert's Impromptu in G major with the G major piano sonata...

climaxes. If she linked them more consciously towards earlier, tonal Schubert than the later, atonal miniatures they sometimes prefigure, it was not by superimposing any romantic gloss or richness — sonorities were consistently crisply defined, changes of texture acutely rendered...

below the norm. She almost sustained it; the spell of concentration filtered towards the end of the exposition on both occasions, when the most beautifully sustained tone and phrasing could not revive it.

Louisiana State Museum/Frank Lipsius

Louis XIV: The Sun King

As the main off-site attraction of the New Orleans World's Fair, which opened this month, the exhibit of 240 paintings, documents and objects depicting the life of Louis XIV makes him the honoured guest of the state named after him...

Louis's later years when foreign wars depleted the nobles, as well as the king's treasury. The last of the dozen galleries shows Louis's impact on America. Permission granted to La Salle to explore the western area of 'New France' from its Canadian origins down the Mississippi ultimately resulted in the founding of New Orleans in 1718, three years after Louis XIV's death...

as primitively drawn on one map of the new world's treasures, and alligators, which inspired European imaginations to make them part of the earliest symbols of America. In taking their historical mission seriously, the show's curators were not shy to include visual documents that lack the written fair of the king's artists but arouse a historian's excitement at seeing the original signatures on France's copy of the Treaty of Utrecht. One written document in an artist's hand is a letter from the Ottoman sultan in a gracious Arabic script sprinkled in gold powder, with which the document was dried.



Statue of Louis XIV by Jean Gobert the Younger

The artistic awakening of Argentina

Slowly but surely Buenos Aires is recovering its status as the undisputed cultural capital of South America. The lifting of censorship; funds made available by the Culture Ministry; and the demise of the death squad as the million of public morality have followed the return of civilian government under Sr Raúl Alfonsín...

Enrique Lopreace, a sinister 'scientist' who barges into Brando's room in the opening scene claiming to be conducting an investigation into the psychological reactions of victims of the state.

I Am) stands in a league on its own. 'I've lived better times, had times... I watched writers pass, an investigating and... only God knows what I've been through... and yet here I am...' says Guevara, interrupting a ruminating monologue on her real and imagined history.

There are moments when Guevara moves like Minelli, sounds like Piaf, but she never quite gives the impression of being a simple hybrid. Her originality is to be found in her physique and repertoire, both of which challenge the sensitivity of a local audience moulded for too many years on orthodoxy and stereotypes.

Jimmy Burns, in Buenos Aires, reports on a flowering of the arts in a more liberal climate

talented Jorge Goldenburg, is an acute synthesis of the trauma of political repression. Lusianna Brando gives a moving performance as the young wife whose only form of communication with her husband is through a discontinued 10,000-30,000 'disappeared'—is through a periodical phone call strangled by anonymous torturers.

ing. Elsewhere in the city current new shows include a musical based on the life of Georges Sand, one man plays on the works of the Spanish poets Lorea and Machado; a sophisticated if rather camp mime extravaganza; and good local productions of Carlo Fo's 'Accidental Death of an Anarchist' and Pam Gems' 'Plaf'.

others. Nacha fled the country and for nine years of exile roamed the world. She has managed to build up a reputation from Madrid to New York (where she was commended with an Entertainment of the Year Award for a performance at the Kennedy Centre), absorbing musical influences and tempering the bitterness she felt towards her own country.

Guevara has made a defiant and triumphant comeback with a breathtaking show which combines cabaret, music hall, jazz,

Arts Guide

Music/Monday, Opera and Ballet/Tuesday, Theatre/Wednesday, Exhibitions/Thursday. A selective guide to all the Arts appears each Friday.

May 11-17

Opera and Ballet

NEW YORK
American Ballet Theatre (Metropolitan Opera House): Ends June 18. New York City Ballet (New York State Theatre): 37 repertory works, including 24 by George Balanchine and 10 by Jerome Robbins...

PARIS
Roland Petit and the Ballet National de Marseille at the TNP-Châtelet (info: 2330000, bookings: 261 1993). Traditional Music from India (6.30 pm) and Bejai influenced Gyro-Ballet from Budapest (8.30 pm). Théâtre de la Ville (874 2277).

WEST GERMANY
Berlin Deutsche Oper: La Traviata with Julia Varady, Giorgio Lamberti and Leo Nucci; Pelleas and Melisande, produced by Götz Friedrich, with Karen Armstrong and Ryszard Bardejowski. Butterfly with Rain Kabakovskis in the title role.

ITALY
Florence: Teatro Comunale. As part of Florence's Maggio Musicale, a new, and controversial production of Rigoletto directed by Yuri Lyubimov. The recently-ended Russian's insistence on adequate rehearsal and punctuality has so far led to the resignation of the conductor and two principals (they claim to disagree with his interpretation). The conductor will now be Hans Graf, with Antonio Sabadori in the title role, and the young Greek soprano, Jeny Drivala. (216253).

ROYAL OPERA HOUSE, COVENT GARDEN: A triple bill of Argon, Return To The Strange Land and Derek Dean's Fleeting Figures. Sadler's Wells, Rosebery Avenue: London Contemporary Dance Theatre season opens on Tuesday with a triple bill. (2788918).

MUNICH, Bayerische Staatsoper: Der Rosenkavalier with Gwyneth Jones and Brigitte Fassbinder starts the week. Aida with Livia Budai, Giorgio Lamberti and Garbis Boyagyan, directed by Nello Sanza highlights the week. Elektra has Strauss' programme starring Mariella Devia and Peter Schreier. (351151).

ROME: Teatro dell'Opera: Parsifal, conducted by Wolfgang Rennert, with Sven-Olov Eliasson, Gabriele Schnabel and Karl Böhm. (481755).

TEHRAN: Teatro Regio: The world premiere of Gargantua (librettist: Azio Corghi and composed by Augusto Frassinetti) — an opera in two acts based on Rabelais's masterpiece. The opera has already suffered the sort of censorship labelled known over four centuries ago. Conducted by Donato Renzetti, Boris Bakor, Delfo Mennucci (Gargantua), Enrico Fissore (Gargamella), Carmen Gonzales (Gargamella), (548000).

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Letters to the Editor

Wrongful use of insolvency

From the Head of Policy Unit, Institute of Directors  
 Sir—Your correspondent Mr Alfred Goldman (May 14) is wrong to suggest that the Institute of Directors did not make its voice heard on the Insolvency Law White Paper until after its publication. We did, of course, submit a memorandum well before publication.

Directors welcome the broad thrust of the Cork Committee's Report and the White Paper. Together with many others the Institute is disappointed that Sir Kenneth Cork's proposals did not emerge in the White Paper as the comprehensive package which Sir Kenneth sought. The continuing imbalance in favour of Government Department as preferential creditors unfairly penalises private sector businesses.

The Institute of Directors is now closely involved with Government in the White Paper into workable legislation. Many professionals and insolvency practitioners share our view that the definition of wrongful trading needs a considerable amount of work to ensure that it does not in practice lead to the same trap as the 1975 Social Security Act, which imposes what is in effect guilt without proof of fault upon individual directors and makes them personally liable for unpaid company National Insurance contributions.

The Institute and its members are eager to enforce rigorous penalties against those who abuse the protection of limited liability. Nonetheless a definition which imposes personal liability on a test of imputed knowledge—that directors "ought to have known" that their company would not be able to pay its debts at the end of the day—must be prescribed with care; the Institute is endeavouring to convince Ministers that the familiar definition of recklessness, or consent, connivance and neglect, are appropriate.

Incentives for staff

From Mr M. Crawford  
 Sir—It is not clear whether Prof Weitzman (a better way to fight stagflation, May 2) thought he was floating an original idea or merely gave that impression due to shortage of space.

The wage/salary payments system he was advocating, in the first half of his article, was fairly widely applied between the 1930s and the 1950s in the U.S. where it was known as the Rucker scheme. Variants of it were introduced by several companies in the UK from the 1950s onward. The inherent incentives, for employers and employees, differ considerably according to the specific design characteristics of the scheme. Prof Weitzman does not seem to have noticed this.

He says, for example, that General Motors would have an incentive to restructure and expand production if the workers would accept pay based on a proportion of GM's value added. (Actually he said revenue but he meant value added, since there is a way in which workers and their employers can share the income from goods and services which the company buys in from outside.)

Value-added sharing schemes in the UK have had a chequered history. Some have flourished because of wage volatility due to fluctuations in demand for the product, others offered too little incentive to the workers, and some were merely designed to avoid income policies.

The dangers of removal of support for exports of capital goods

From the Economic Director, National Economic Development Office  
 Sir—The publication of the Treasury report on capital export support is very much to be welcomed as a means of bringing the issues involved into public debate. But it does not appear that Samuel Brittan, in preparing his article on the Treasury and NEDO reports on export aid (May 8) has looked at the reports with care which he customarily exercises. British capital goods exporters are not opposed to free and unsubsidised trade in this field. They believe that on such terms they would be fully competitive and accept that if they were not, they would have to improve or cease trading. Indeed much very successful business has been obtained in the face of the most intense international competition where no question of support enters. Their concern, as expressed in the critique issued by the committee for the sector concerned, was not to attack the objective of the Treasury report but to point out that it had perhaps become out-of-date, to question a number of specific assumptions and methods of analysis, to point out what therefore appear to be some inaccuracies in the figures in the report and above all to illustrate the dangers of unilateral removal of support.

There are two reasons for this last point being important: the matching of capital export aid of other countries gives the UK a lever for achieving multi-lateral reductions in such subsidies and it is argued by Mr Brittan (and others) that even unilateral removal of subsidies is sensible because, although depends on years of building up expertise, markets, innovative product design and processes. It cannot just be switched on or off by exchange rate movements.

Stock Exchange green paper

From Mr M. Walters  
 Sir—As the discussion on the Stock Exchange council's green paper gathers momentum there is one aspect which has been seriously overlooked and this concerns the composition of the Stock Exchange council itself.

Significant numbers of the council members are partners or principals of firms which have negotiated a 29.9 per cent sell-out to a larger organisation and usually to a very substantial quoted company. By such an action those council members, having established a 29.9 per cent "comfort" for themselves and their firms, can no longer have a 100 per cent interest in the remaining Stock Exchange membership and member firms they purport to represent.



Four 'copters running

From Mr K. Loudoun-Shand  
 Sir—Captain Eric Brown of the British Helicopter Advisory Board challenges (May 10) claims of excessive noise from the City heliport. Whilst the noise from our helicopters were on the barge all with engines/rotors running simultaneously 100 yards from this

building. If the owners and Captain Brown want the heliport to remain where it is then they should pay for double glazing for those nearest to the heliport. Whitehead, K. N. Loudoun-Shand, Sir John Lyon House, 5 High Timber Street, Upper Thames Street, EC4.

No popular support

From the National Organiser, The Freedoms Association  
 Sir—In David Goodhart's report on the dispute over the Daily Express editorial (May 11) he refers to the Campaign for Press and Broadcasting Freedom as "growing".

Readers may be interested to know that that growth has come about not through its own efforts but simply by decree of the Greater London Council. Last year, it gave CPBF a grant of £55,000 to fund its two full-time staff and one part-timer for a year.

Without this compulsory levy on Londoners, the CPBF would collapse. It enjoys no popular support. Gerald Hartup, 360-366 Oxford Street, W1.

Costly homes improvement

From the Managing Director, Deedport  
 Sir—We are a small company employing 22 people who have seen the home improvement industry for ten years. Because of the nature of our work, many of the services we provided were "zero rated." Imagine then our concern on Budget Day!

The home improvement industry has been a growth area providing significant employment opportunities and overwhelmingly so in small businesses. The inevitable price increase to householders of 15 per cent from June 1 will, we fear, result in a very considerable reduction in our business, and we are seriously concerned for our future prospects.

Costly homes improvement

On TV, radio and in the newspapers we hear about the extra pence customers will have to pay in VAT on fish and chips, take-aways, etc. If our industry means customers having to pay pounds and pounds extra. For instance, a customer having new windows installed this month for £5,000 will have to pay an extra £450 on June 1.

Government policy is to encourage energy conservation—the imposition of VAT on double glazing is a backward step.

WHEN the West German Social Democrat Party (SPD) swung against Nato's decision to deploy new Euro-missiles last year, the renege on the policy long pursued by the party under the leadership of former Chancellor Helmut Schmidt, there were grave anxieties in the capitals of other Nato countries, especially in Paris.

Foreign Affairs: W. Germany  
 Arms: the SPD edges in from the cold

By Ian Davidson



Helmut Schmidt (left) and Egon Bahr

Some believed that the 25-year-old German consensus on defence strategy had been fatally shattered; others feared that Germany's volatile soul was leading it unpredictably towards neutralism. President Mitterrand of France, as disturbed by these fears as anyone, spared no effort in public and in private to stiffen the resolve of the new Christian Democrat-Liberal coalition to stand by the Nato decision.

Today a greater sense of calm prevails—and it must be said that the British Foreign Office, whether through peripatetic or stodginess, has always been much less alarmist than its French and American counterparts. The SPD is still wrestling with the problems of German security and defence policy, and the effort betrays a profound unease with some elements of existing Nato and American policy. But there is no evidence of big groundswell towards neutralism, and the unease is not different in kind from that felt in many European countries.

Over 300 motions on defence and foreign policy have been put in for this week's party congress, but not one of them to strengthen European co-operation in foreign and security policy.

"I am more relaxed," he says. "We are moving in directions which can be handled, and may even improve the situation." This week's defence policy debate will be conducted against the background of the report of a working party, whose members spanned the gamut from Hans Apel, formerly defence minister in the Schmidt administration, to Egon Bahr, the quicksilver architect of Germany's Ostpolitik under former Chancellor Willy Brandt.

Karl Kaiser, director of the German Foreign Policy Institute in Bonn, has long been associated with the SPD, and he was one of the few brave souls publicly to defend the policies of Helmut Schmidt when the lemmings were running away. Today he believes a new consensus may be emerging in Germany as a result of the emotional debate of 1981-83.

"More people now understand the role of nuclear weapons. I know of no SPD member of the Bundestag who wants to get rid of nuclear weapons, though some would like to confine them to their political function—whatever that may mean. Most people in the SPD, as in the CDU, want to work for improvements in Nato's strategy of flexible response, not for its abandonment; most people in the SPD, as in the CDU, want to strengthen European co-operation in foreign and security policy."

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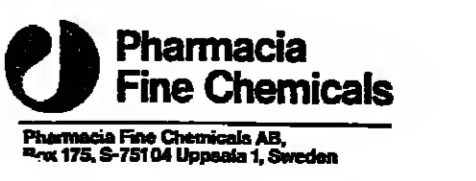
Modern biotechnology is no longer confined to specialist genetic engineering companies. Today, most of the chemical, food, drug and energy multi-nationals have some stake in the business, either by development of their own facilities or through acquisition, corporate partnership or contract research.

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 But whatever its type, size or location, a company's investment in healthcare biotechnology only begins to pay off when it has a product that is ready for the marketplace. In other words, purified, packaged and approved. Purification is the key word. It is this part of downstream processing that turns microbial fermentations and cell culture extracts into vital healthcare products. Products like vaccines, growth hormones, interferons, plasma proteins, neuropeptides and monoclonal antibodies.

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UK plans major defence changes

BY BRIDGET BLOOM, DEFENCE CORRESPONDENT, IN LONDON

A MAJOR reorganisation of the British defence establishment is foreshadowed in the annual White Paper (policy document) on Defence, published yesterday. The White Paper, which was launched at a press conference by Mr Michael Heseltine, the UK Defence Secretary, puts together strands in government policy which have been emerging over the past few months concerning both the central reorganisation of the Defence Ministry and the armed services as well as reforms designed to improve efficiency in weapons procurement.

to benefit from the minister's intention to contract out or privatise more of the support functions, such as aircraft servicing or army equipment repair, now carried out by the armed services themselves. At the centre of Mr Heseltine's reorganisation are reforms which he announced in outline in March and which will be the subject of a separate White Paper in July. The reforms, outlined again in yesterday's White Paper, and currently being worked out in detail within the Ministry of Defence, have aroused considerable if so far uncoordinated opposition at senior service levels in the ministry. If they are implemented as Mr Heseltine originally envisaged, they would greatly centralise management control of defence by removing all policy and weapons planning staff from the UK Chiefs of Staff who would become administrators of their services only.

Hart looks for surge on home stretch

By Reginald Dale in Washington

SENATOR Gary Hart hopes to enter the final stage of this year's democratic presidential nomination race with victories in today's primaries in Oregon and Nebraska. The Senator from Colorado is hoping for a surge through the remaining seven primaries to propel him to the nomination at July's national party convention in San Francisco.

Mercantile House bid to create U.S.-style securities business

BY JOHN MOORE, CITY CORRESPONDENT IN LONDON

MERCHANTILE House Holdings, the fast growing UK-based international financial services group, yesterday announced that it is acquiring Jessel, Toynebee & Gillett, a London discount house, for £23.8m (\$33m) and a 29.9 per cent stake in stockbrokers Laing & Cruickshank as part of its efforts to create an American-style securities operation in London.

the managing director, are expected to leave. Mr Grant, who has been with Alexanders for 29 years, is discussing the terms of the settlement for his departure. At Jessel 15 of the 41 staff are to go. Mr Michael Toynebee, chairman of Jessel, said yesterday: "I shall see every member of staff this afternoon to tell them what their position is. It is very difficult. Until you get the acceptance of your shareholders on the deal you can't really let them go, because there is always an outside chance that something might go wrong and the deal might not go through. In the proposed deal Mercantile is offering three of its shares for every 10 shares in Jessel with an alternative floating rate loan note offer. Jessel is to be combined with Alexanders to create the third largest discount house in London. Mr Jeremy Hardie, chairman of Alexanders, said yesterday the staff cuts on his side of the discount opera-

Mexican president to stress debt issue in U.S.

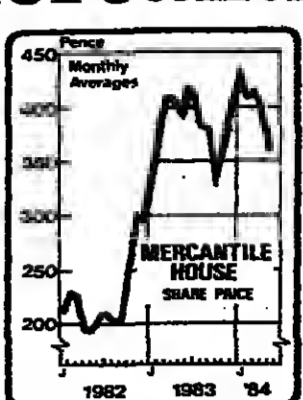
By David Gardner in Mexico City

PRESIDENT Miguel de la Madrid of Mexico was last night due to begin his first state visit to the U.S. against a regional background of alarm at the rising trend of U.S. interest rates and concern at the arms build-up in Central America. The three-day visit comes after President de la Madrid's tour of South American capitals at the end of March and last week's official visit to Canada, which were seen in Mexico as assertions of independence from the U.S., Mexico's major trading partner and creditor.

President de la Madrid has had two informal meetings with President Ronald Reagan in October 1982 in San Diego and last year on the Mexican side of the Californian border. Apart from the debt and Central America issues, President de la Madrid hopes to make progress on negotiations towards a bilateral trade treaty and on the problem of illegal Mexican emigration to the U.S. In talks with President Reagan, and in a speech to Congress scheduled for tomorrow, President de la Madrid is expected to stress that the stability of the region depends on finding an equitable solution to the debt crisis. Such a solution the Mexicans believe, must lead to the resumption of the net inflow on funds needed to finance Latin America's development, which is being made impossible by rising interest rates and increasing U.S. trade barriers.

THE LEX COLUMN More Houses for Mercantile

The chairman of Mercantile House, Mr John Barkshire, has always aroused mixed feelings in the City but never can opinions of him have polarised as they did yesterday.



The shareholders of Laing & Cruickshank received a generous £7.5m for 29.9 per cent of their business, with the promise of more later, while about a third of the employees of Mercantile's discount house stable could contemplate nothing more attractive than premature redundancy.

Mercentile will admittedly fund the acquisition with its own paper but it is difficult to interpret the deal other than as a vote of no confidence in Alexanders and its senior management. In the three months since Mercantile bought Alexanders its own share price has fallen 10 per cent while Jessel's has risen about 15 per cent. Having failed to capture Gerrard & National, it might have been more sensible to move directly for Jessel. Laing & Cruickshank brings to Mercantile a highly regarded team of financial analysts, a respectable private client department and a medium-sized corporate finance operation.

Whether all this justifies a multiple of 11 times earnings, in an exceptionally good year, is a matter for debate. Mercantile has certainly accomplished its goal of establishing a presence in the UK securities market, but has yet to show how all the pieces in the Meccano set will bolt together.

the main reasons for what were seen as slightly disappointing first-quarter profits of £18m, and it is quite possible that other U.S. brands now waiting in the wings will receive similarly heavy support later in the year.

In Europe, it is encouraging to see that every consumer and industrial division - edible fats and oil milling excepted - showed volume growth, and that volume was translated directly into higher margins. Some margin improvement would be expected at this stage of the cycle, but not perhaps this much. Certainly, the group is leaner and fitter, more important, it may in this respect be establishing a slight edge over the competition.

BPCC/Bishopsgate

As they looked away from the prospect of the BPCC balance sheet while simultaneously widening the group's shareholder base, it cannot have taken too long for Mr Maxwell and his advisers to find a suitable investment trust for dismemberment. Bishopsgate should produce just under £53m at its current net asset value - neatly cancelling BPCC's debt with the exception of an £11m term loan - and its register of shareholders gives BPCC a ready-made extension to its institutional list.

Assuming that the new BPCC shares are all taken up (whether by Bishopsgate holders or by minority holders of BPCC) the 75 per cent Pergamon stake would fall to just over 60 per cent. This dilution should help to make the shares more marketable, an objective which could scarcely be harmed by announcing an intended 1984 dividend increase of 50 per cent. With perhaps £3m of interest charges no longer weighing on the BPCC revenue account, and with a second phase of loss elimination in the pipeline from Odhams and Park Royal) Mr Maxwell could have few qualms about offering this long-range largesse to make the deal go.

Berliner Bank goes to market

BY LESLIE COLTIT IN BERLIN

BERLINER BANK, the only city-owned commercial bank in West Germany, is to take its first step toward privatisation with a flotation on the West German stock market to increase its capital. The bank's equity base is to be raised by DM 65m to DM 250m (\$90m) because of a growth in business volume.

Berliner Bank was created in 1950, a year after the West German currency reform and the end of the Berlin blockade, when there was little capital available in West Germany. The city-state of Berlin was obliged to hold the shares of the bank, which was legally a private institution.

Berliner Bank made an operating profit last year of DM 20.7m after breaking even in 1982. The city finance department is receiving a 12 per cent dividend for 1983; no dividend was paid in 1980 and 1982. In those years Berliner Bank suffered from its involvement in loans to Poland, and to the ailing AEG company and from losses on a city-guaranteed loan to a West Berlin construction company that went bankrupt.

Tokyo shares hit by selling wave

BY ROBERT COTTRELL IN TOKYO

TOKYO share prices fell sharply yesterday, with the Nikkei Dow Jones 225-share index registering the second-largest single session drop on record. The index ended the day at a six-week low of 10,563.94, down 270.53 points on Friday's close.

The dollar strengthened ¥1.73 to ¥231.5 at the Tokyo close, its highest level since the beginning of March. Brokers said that although stock dealing was light yesterday, overseas orders to sell had built up at the weekend.

The yen is falling. Money is moving out of equities into the bond market. Foreigners are selling. Foreigners are estimated to have been net sellers of Japanese shares for the last eight weeks, though until last week the pressure was more than counterbalanced by domestic buying. Now, says Mr Nick Gregory, research manager in the Tokyo representative office of stockbrokers Hoare, Govett, "there is a growing awareness of how big the foreign selling has been."

Reagan backs away from blaming Fed

Continued from Page 1

Long Bond due in 2013 was also marked sharply lower, dropping more than one point in price by lunchtime to 88 1/2 to yield about 13.53 per cent. At the Monday lunchtime prices, the Wall Street firms and others which bought the new long bond as part of the quarterly refunding package - and must pay for their purchases today - already had paper losses of more than \$100m on the long bond alone.

The market is totally demoralised, said one trader. "Retail investors have just frozen, all the trading is between dealers." Other Wall Street bond traders described yesterday morning's performance as "wild" and noted it resembled trading early on Friday when bond prices plunged under a wave of selling pressure only to recover later as bargain hunters stepped in.

In contrast to long-term rates, short-term U.S. interest rates were unchanged or slightly lower in early New York trading yesterday. Nevertheless, the acute nervousness in the U.S. credit markets again held the equity market back. After a drop of more than five points in the first minutes of trading the Dow Jones Industrial Average was 6.80 points lower at 1150.34 at 12.30pm with more than 30m shares changing hands and the New York Stock Exchange ticker tape running up to five minutes late in early trading.



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World Weather

Table with 4 columns: City, Temperature (C/F), Wind, and other weather details for various global locations.

Conti Illinois standby

Continued from Page 1

Despite the strong denials, the Chicago bank appears to have had difficulty restoring confidence in itself, and U.S. bank regulators and senior commercial bankers admitted yesterday that if the crisis of confidence surrounding the bank was not promptly halted it could spill over into the financial markets generally and damage other banks' access to the money markets.

Although the U.S. bank regulators did not play a public role in the arrangement, the Federal Reserve Board said yesterday that it had been kept informed, significantly, on the smooth operation of these markets. While the Continental Illinois standby facility is not unprecedented in recent U.S. banking history - Seafirst and First Pennsylvania Corporation were each granted \$1.5bn standby facilities when they ran into financial difficulties - its size is far bigger than anything ever arranged before.

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Interest is payable in arrear on 30th May, the first payment being made on 30th May, 1985.

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**INTL. COMPANIES & FINANCE**

**HK commitment stressed  
by Jardine Matheson**

BY DAVID DODWELL IN HONG KONG

UNCERTAINTY over the future of Hong Kong has led to problems for Jardine Matheson's international business, particularly when competing for major long-term contracts, joint ventures, new acquisitions or finance. Mr Simon Keswick, the company's chairman and managing director, told shareholders yesterday.

In a document detailing the company's legal transfer to Bermuda from Hong Kong, where it has been based for almost 150 years, Mr Keswick insisted nevertheless that the change was "nothing more than a change in the legal jurisdiction in which the group parent company is incorporated."

Clearly stung by some press and public reaction to the Jardine decision to change its legal home, Mr Keswick began his statement by telling shareholders "what is not proposed."

"It is not proposed that Jardine will leave Hong Kong. It is not proposed that any of our businesses which are in Hong Kong will be moved out of

Hong Kong, or that I, the executive board of the group headquarters will relocate. Our shares will continue to be denominated, our dividends paid, and our accounts kept in Hong Kong dollars.

"These factors, more than any words of mine, demonstrate our continuing commitment to Hong Kong."

Answering why such a move, which will cost the company about HK\$11m (U.S.\$1.4m), has been proposed, Mr Keswick said: "Jardine has always been an organisation operating under a British legal system and all indications are that Hong Kong will evolve along different lines."

The company, which is the oldest in Hong Kong and has interests in property, insurance and trading, had been placed at a disadvantage, he said, "in being unable to answer authoritatively questions regarding the long term future of Hong Kong and the effects of future changes on Jardine Matheson."

The proposals involve exchanging one Jardine Matheson share for one new share in Jardine Matheson Holdings, registered in Bermuda. The normal value of each new share will be HK\$2 rather than HK\$8 as with current Jardine shares—a move to cut the cost of stamp duty on registration in Bermuda, since this is payable on the nominal share value. Mr Ray Moore, the group's finance director, said this would save about HK\$6.4m in stamp duty.

The proposals will be put to shareholders at an extraordinary meeting on June 7. Assuming they win shareholder approval, the move should become effective on June 27, after court sanction has been given.

Jardine does not expect the move, in itself, to result in any change in tax liabilities either to the company, or its 29,000 shareholders. Mr Moore advised UK-based shareholders to seek advice because of the complex tax regime that existed there.

**Reverse  
for ANZ  
finance  
offshoot**

By Michael Thompson-Neel in Sydney

ESANDA, the main finance subsidiary of the Australia and New Zealand Banking Group, has reported a 5 per cent fall in net profit for the six months to March 31, to A\$20.1m (US\$18.1m).

This is in contrast to the performance of Australia's biggest finance company, Australian Guarantee Corporation, a subsidiary of Westpac Banking Corporation, which recently reported a 20.3 per cent improvement in its profits in the March half-year to A\$50.1m, though that mainly reflected the merger with the General Credits group last year.

ANZ is due to report its group result later this week. Esanda's directors said the full year result was expected to be comparable with that achieved in the 12 months to last September when Esanda earned A\$35m.

**Multi-Purpose  
Holdings plans  
rights issue**

By Wong Sulang in Kuala Lumpur

SCRIP and rights issues are announced by Multi-Purpose Holdings, the Malaysian Chinese conglomerate, which would increase its capital to over 750m ringgit (U.S.\$355m) and make it the company with the biggest paid-up capital on the Malaysian and Singapore stock exchanges.

The group has obtained Government approval to increase its present 450.6m ringgit capital by a one-for-three scrip issue and a one-for-three rights issue in 1 ringgit par value shares.

MPH has grown rapidly since its formation eight years ago. Current assets now exceed 2.5bn ringgit.

**Record profits registered  
by Indian vehicles group**

By JOHN ELLIOTT IN NEW DELHI

ESCORTS, the Indian motor vehicles manufacturer which has been at the centre of a controversial bid for a significant parcel of its shares from Mr Swraj Paul, has registered record net profits for 1983 of Rs 141m (\$12.5m), and is paying a total dividend of 22 per cent with a final distribution of 13 per cent.

Mr Harry Nanda, chairman and founder of Escorts, argues that these results are proof of the company's success and that changes in its ownership and management are unnecessary. He announced that during the year in which the battles with

Mr Paul were fought, sales had risen to Rs 2.8bn from Rs 2.28bn. Net profits increased from 1982's Rs 60m to Rs 141.2m and Rs 112m has been transferred to reserves which now stand at Rs 372.2m.

The controversy over Mr Paul's share purchases — Escorts have been refusing to register the London-based businessman's holding — may be resolved on June 9 at an extraordinary meeting of the company. An attempt by financial institutions to take control over Escorts and so resolve the dispute between Mr Paul and Mr Nanda will be then discussed.

**Luxembourg investment  
venture for Sumitomo**

By YOKO SHIBATA IN TOKYO

SUMITOMO CORPORATION, a major Japanese trading house, has established a Luxembourg registered investment company — Sumitomo Corporation International Investment — to launch the group into the international corporate fund management business.

The new company plans to agree an investment advisory contract with U.K.-based merchant bankers Kleinwort Benson for the handling of short-term investments such as certificates of deposit (CD), commercial paper (CP), corporate and government bonds and securities.

SCII was launched on May 3 with a capital of \$4m all of which was contributed by Sumitomo Corporation. Under the guidance of Kleinwort Benson the corporation plans to invest some \$50m in surplus funds.

The future SCII plans investments in convertible bonds in the D-mark, Swiss franc and U.S. dollar markets. The company has chosen a Luxembourg domicile for tax reasons and has chosen the connection with Kleinwort Benson because of the bank's experience in the investment field.

**Alex Harvey  
36% ahead**

By Dai Hayward in Wellington

ALEX HARVEY INDUSTRIES, the New Zealand building supplies and packaging group, has reported net profits of NZ\$38m (US\$24.7m) for the year to March—a rise of 36 per cent.

The company plans to make a one-for-four scrip issue, increasing its capital to NZ\$75.5m. It is to pay a final dividend of 8 cents a share, making 11 cents for the year.

Sales totalled NZ\$522m, of which exports accounted for NZ\$83.7m. In the previous year sales totalled NZ\$451m.

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Kuwaiti Dinars 10,000,000  
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Third Mandatory Redemption Due 15th June, 1984 Of Kuwaiti Dinars 1,000,000

NOTICE IS HEREBY GIVEN that, pursuant to condition 5 (A) of the above mentioned Bonds, Banque Nationale De Paris has purchased in the open market and surrendered to Kuwait Investment Company (S.A.K.) as Fiscal Agent, Bonds in the principal amount of Kuwaiti Dinars 597,000 and that on 15th June, 1984, Bonds in the principal amount of Kuwaiti Dinars 403,000 fall to be redeemed at 100% of the principal amount together with accrued interest to the date of redemption. The following Bonds have been drawn by lot to satisfy this redemption requirement:

01455-00471	03529-03545	05490-05506
010818-00834	05086-04112	05633-05649
01259-01275	04116-04116	05855-05871
02395-02411	04383-04399	06444-06460
02537-02553	04664-04680	07448-07464
02722-02738	04956-04972	07774-07790
03043-03109	05144-05160	08819-08835
03221-03237	05211-05227	08946-08962

The Bonds specified above will become due and payable in Kuwaiti Dinars at the offices of Kuwait Investment Company (S.A.K.), Mubarak Al-Khair Street, Kuwait City, State of Kuwait, or at the option of the bearer, but subject to applicable laws and regulations, at Citibank, N.A., 536 Strand, London WC2R 1NB and at Banque Nationale De Paris (Luxembourg) S.A., 24 Boulevard Royal, Luxembourg by cheque drawn on a Kuwaiti Dinar account with, or by a transfer to a Kuwaiti Dinar account maintained by the payee with a bank in Kuwait, Frankfurt and after 15th June, 1984, interest on the above mentioned Bonds will cease to accrue.

Bonds should be surrendered for payment together with all unattached coupons appertaining thereto, failing which the face value of the missing unattached coupons will be deducted from the principal amount.

The aggregate principal amount of Bonds remaining outstanding after 15th June, 1984, will be Kuwaiti Dinars 7,500,000.

KUWAIT INVESTMENT COMPANY (S.A.K.) on behalf of Banque Nationale De Paris.

Dated: 15th May, 1984



UK COMPANY NEWS

Unilever profits up £29m in first quarter

COMBINED first quarter 1984 taxable profits of Unilever, the Anglo-Dutch foods, detergents and toiletries group, increased by £29m to £186m from turnover of £361m to £255m.

In Europe both volume and profits were significantly higher than last year. Within the consumer groups, edible fats, frozen products, other food and drinks and personal products did much better, the directors say, than in 1983. Results of detergents were down on last year, while all industrial businesses had improved figures.

Pre-tax profits for the whole of 1983 were £768m (£725m) and turnover amounted to £13,992m (£13,222m).

In North America, Lever Bros invested heavily in launch expenses on new products and consequently their first quarter contribution was lower. As a result while the other major U.S. businesses had a good three months, total North American figures were down on 1983.

The directors say that continuing poor economic conditions and other adverse factors in the group's main areas of operation, still affect UAC International sales volume, and results showed a fall.

In the other businesses throughout the world, total sales and profits were well up on last year and they included a good contribution from expanding plantations.

The group said later that the investment by Lever Bros is a reflection of Unilever's confidence in the company's performance in the U.S. Lever is currently carrying out the national launch of its Dimension shampoo and conditioner. Its aim is to take the number one spot in the beauty shampoo market, an important part, directors said, of the \$30m hair care business in the U.S.

Elsewhere, there was "a clear improvement" in profitability in European operations, and although Nigeria remained a

problem area, there were some strong performances elsewhere overseas.

Group operating profit amounted to £190m for the quarter, against £150m, associates share was £11m (same), investment income £12m and other interest received and similar income added £20m (£30m). The pre-tax figure was after interest payable and similar charges, unchanged at £26m.

Tax charge was £90m, compared with £74, there was a previous year's tax adjustment credit of £1m (£1m debit), and minorities and preference dividends took £7m (same). Including an exchange gain this time of £1m the attributable balance came through £16m higher at £21m.

Results for the quarter, and the comparative figures, were translated at the rates of exchange ruling at the end of 1983, the directors point out. An exception was made for the re-

HIGHLIGHTS

Mercantile House is buying up another discount house and 29.9 per cent of Laing & Cruickshank, the London stockbroker. Lex looks at the implications of the move before turning its attention to the offer by Mr Maxwell's BPCC for Esboppage Trust which was announced yesterday together with the publication of the publishing group's annual report. Unilever reported first quarter figures yesterday and despite heavy launch costs of a new shampoo in the U.S. pre-tax profits managed to rise by 19 per cent to £186m. Finally the column comments on the weakness in the U.S. bond market and its impact on sentiment in London.

Readicut pays 1.2p on strong recovery

HERALDING what the directors describe as a new era of profitability, Readicut International, manufacturer of rug kits and specialist textile products, closing round from losses of £1.52m to pre-tax profits of £3.77m in the year to March 31, 1984, and is paying a 1.2p net dividend, compared with a nominal 0.1p for the last three years.

At mid-term the recovery was from a deficit of £1.89m to profits of £443,000 and the directors said when they were hopeful of eliminating loss-making activities and disposing of surplus properties within the group.

They now say that, as over the past four years management has concentrated on restructuring the group into an efficient entity, the core strength now rests firmly in modern and competitive manufacturing facilities.

Fishings and textiles reported significant increases in turnover and profits during the year under review and the two carpet manufacturing companies achieved "excellent" results.

In handicrafts, restructuring the rug kit undertakings continued throughout the 12 months with a much improved rate of return in the second half, a period which also saw losses on yarns and fibres slowing.

As regards the current year they say the momentum of recovery in handicrafts will be maintained by operating from a much lower cost base, further economies in areas of order processing and advertising, and extending the product range.

Work shortage cuts Whessoe profit to £1.12m midway

ALL MAIN sub-groups of Whessoe, the Darlington-based engineering concern, entered the effects of an unexpectedly severe and continuing shortage of new work, which left the total taxable profit at £1.12m for the half year ended March 31, 1984, less than half the comparative figure of £2.59m.

Though some increase in the group's profit is expected for the second half, the full year's result is now likely to be appreciably lower than last year's £6.58m.

After tax of £982,000 compared with £1.28m, earnings per 25p share are given as down from 8.5p to 2.5p, but the interim dividend payment is maintained at 2.5p net absorbing £481,357 (same).

Turnover for the 12 months slipped to £32,42m, against £32,97m, and with pre-tax profits were split as to heavy engineering £25.27m (£24.18m) and £1.65m (£1.53m); high pressure pipework £23.97m (£25.23m) and £1.50m loss (£562,000 profit); light engineering £2.13m (£3.58m) and £239,000 (£49,000).

Heavy engineering in the UK made good profits on completed contracts, directors state, but these were reduced by low activity mainly at the Darlington works. Whessoe Ireland, however, achieved rather better activity and operating profitably.

The Aiton companies in the UK and Australia remained busy, although contract completions and profits were low. The sub-group's loss for the six months was substantially that of Aiton Power, the Canadian sub-

Dencora expands to £1.04m

Pre-tax profits of Dencora, property investment and housebuilding company quoted on the USM, surged from £460,000 to £1.04m for the year ended December 31, 1983 on turnover up £2.79m to £7.93m. There is again no dividend.

Profits included other operating income of £1.42m (£1.05m) and interest received of £13,000 (£4,000), but were after administration expenses, up from £397,000 to £1.29m, and interest payable of £958,000, against £882,000.

There was a tax credit of £16,000, compared with a £8,000 charge, and extraordinary credits of £5,000 (£7,000). Earnings per 25p share were much higher at 8.4p against 3.5p previously.

The housebuilding division had a successful year, directors say, with 120 houses sold, and the current year should show an improvement. They add that the company has sufficient land bank stock for the next two to three years for development in this field.

Commenting on the current year, the directors say it is proving to be very busy with a number of commercial schemes being developed with several prelets. The industrial portfolio is expanding in line with group policy and lettings are encouraging.

Group revenue should be boosted by several rent reviews, to be agreed this year, and the asset base, directors state, should increase considerably in view of the number of developments which will be completed and let during the year.

The group's total property assets are now valued at £23.2m (£18.7m).

All commercial properties developed during 1983 have been retained in the investment portfolio.

Crystalate doubles profit and lifts interim

INCLUDING FOUR months results from the Royal Worcester acquisition, profits of Crystalate Holdings for the six months ended March 31 1984 have doubled to £2.8m pre-tax, and the interim dividend is lifted from 1.25p to 1.47p net.

The second half covers a quiet seasonal period for the fine china business, but the directors expect the results to show an improvement over those now reported. This will especially reflect continued progress from all electronics activities.

For the period sales trebled to £34.51m and the operating profit surged from £1.43m to £3.33m analysed as follows, in £000's—electronics £22.89m (£11.481) and £2,227 (£1,424); fine china £10,699 and £1,011 and industrial ceramics £316 and £90. The fine china and industrial ceramics businesses were acquired through the purchase of Royal Worcester, along with Welwyn Electronics.

The directors continue to assess the future of the china

and industrial ceramics activities, both of which display encouraging trading prospects, and the possible attraction of disposal. A number of parties have expressed interest in acquiring these businesses.

The original Crystalate electronics activities have performed consistently, with the Greendale and Osborne operations recording further improvement and Ebonestos providing a further useful contribution. Bessoo remains the major contributor but accounted predicted but temporary problems with new products and assembly techniques.

A new business, Crystalate GCIB SA near Paris, was acquired to provide a further interest in the French defence and telecommunications industries.

Welwyn obtained excellent results especially from its microelectronics division although the resistor and strain measurement businesses also performed well.

The china companies enjoyed

a buoyant Christmas season and Worcester Royal Porcelain and Spode each show improved profitability reflecting the past investment in new designs and modern production plant. Both operations have also benefited from increased penetration of the U.S. market.

The industrial ceramics company increased its profitability. After tax £1.34m (£702,000), extraordinary credit £279,000 and minorities £16,000, the net attributable profit came out at £1.73m (£707,000). Earnings are shown at 7.21p (4.69p) basic and at 5.19p (4.1p) fully diluted.

In the year ended September 30 1983 sales totalled nearly £34m and profit before tax was £3.21m. The extraordinary item is a credit for referred tax to reflect the future corporation tax rates proposed in the Budget.

comment

Royal Worcester has turned out to be an even better buy than Crystalate dared hope for when it made its acquisition for £24m

in paper last year. Pre-tax profits have doubled, earnings per share are up 54 per cent on the increased capital, and the main target of the purchase, RW's electronics arm, Welwyn, has fitted well into the existing operations. But the real surprise is the news that Crystalate will be looking for at least £25m if it goes ahead as expected with plans to sell RW's fine china business. Such a deal would then generate far more cash than anticipated for reinvesting in the electronics businesses, possibly for further expansion into Europe and almost certainly for further acquisitions. The outlook for the electronics companies is good, though growth at the biggest subsidiary, Bessoo, was held back by teething troubles with new machinery and by component delivery delays. For the year, 86m pre-tax looks within reach, putting the shares, up 1p at 27.1p, on a prospective p/e of 28, on a fully diluted basis, assuming a 48 per cent tax charge.

Brikat USM placing gives market value of £6.6m

Brikat, which produces the Pegasus brand of business accounting software for microcomputers is coming to the USM by way of a placing of 1.2m shares at 140p per share giving a market value of £6.6m.

Laing & Cruickshank are brokers to the issue which will raise £303,000 for the company. The funds will be used in part to finance the group's expansion in the U.S. where it has started selling a U.S. adapted version of the Pegasus software called Osprey. Pegasus has 15 per cent of the £12m UK business accounting software market. Brikat has a systems distribution and maintenance business

Stat-Plus to get USM quote via share tender

Laurence Prust is bringing the law and commercial stationery supplier, Stat-Plus, to the USM by the unusual method of a placing of 1.43m shares by tender.

Several institutions were invited to tender at a minimum tender price of 80p. The offer was oversubscribed and a striking price of 110p per share has been decided, giving the company a market capitalisation of £7.9m.

Mr Trevor Painting and Mr Derek Bird, joint managing directors, and Mr Bird's wife Patricia have built up the

Stat-Plus to get USM quote via share tender

business, located in the South and South East, supplying stationery with a particular regard to the needs of the legal profession. The distribution centre is in Collier's Wood, and Stat-Plus provides an overnight supply service for law firms and other stationery.

The directors hope to expand geographically, probably through the acquisition of small stationery businesses for which a quotation will give them greater flexibility. They expect to fund the major part of such expansion from retained profits and depreciation.

The company has grown rapidly and in 1983 made pre-tax profits of £700,000 on turnover of £3.55m. In each of the three years to December 1983, return on trading capital employed exceeded 100 per cent. Sales in the first three months of 1984 were 30 per cent higher than in the first quarter of 1983.

The p/e on a 35 per cent tax charge is 17.2 based on the 110p striking price. The prospective yield is 2.3 per cent. Dealings should begin on May 21.

Why do food manufacturers hunger for SyFA?

The sources of Readicut's profit resurgence are a touch mysterious, since the group has postponed publication of its usual divisional breakdown until the Report and Accounts, with Mr Joe Elyman's stake now at 17 per cent, the board prefers to keep its cards close to its chest. But although group volume is up 9 per cent on the year, the bulk of the improvement results from surgery: discontinued businesses alone account for £1.2m of the turn-around at the pre-tax level. Year-end net borrowings are £51m lower, at £10.1m, and now stand at 41 per cent of shareholders' funds; property sales fetched £1m last year, and there is still some £1m to come. Saving disappointments—something of a Readicut speciality of late—this year's pre-tax might reach £41m. Five years ago the figure was double that, but rug kits are down to 10 per cent of turnover, and falling, if the group is to regain its former size, it will be in quite a different form. At 35p—up 3p—the shares are on a prospective p/e of 8, assuming an unchanged 30 per cent tax rate.



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BIDS AND DEALS

600 Group in £14.3m U.S. sale to Rexnord

THE 600 Group, the machine tools and material handling equipment maker, has agreed to sell its 28.7 per cent stake in Clauson Corporation, to Rexnord, a Milwaukee, Wisconsin-based machine and components manufacturer for \$19.75m (£14.3m).

The 600 share price rose 13p yesterday to 83p.

Rexnord will pay \$12.50 cash per share for the holding in Clauson which was built up by the 600 Group from an initial 20.6 per cent stake bought in September 1980.

The 600 Group valued its Clauson holding at £5.68m in its latest accounts at March 31 1983 and its share in net profits before tax and extraordinary items was £1.25m.

The UK group said it will maintain its close association with Clauson through a partnership in Clauson Machine Tools, which distributes certain 600 Group and other machine tool products in the U.S. It will use the cash from the sale to expand its business and repay borrowings.

Mercantile House reaches agreement on two major purchases

Mercantile House has reached agreement to acquire Jessel, Toyne and Gillett, and 29.9 per cent of Laing and Cruickshank.

These two acquisitions represent further important steps towards Mercantile's objective of building an organisation that can play a significant part in the development of London markets for securities and related financial instruments, the directors state.

Jessel offer terms are three Mercantile ordinary shares for every 10 Jessel ordinary.

As an alternative holders can elect to receive 110p nominal amount in floating rate loan notes 1989 of Mercantile for each Jessel share.

Floating rate notes will only be issued in respect of a maximum of 50 per cent of the ordinary shares in Jessel.

Accepting holders who elect for up to 50 per cent of their ordinary will receive the loan note for all such shares. To the extent that holders elect for the loan note alternative in respect of more than 50 per cent, the amount of each election for more than 50 per cent comprised in an acceptance will be scaled down pro-rata to the amount of the loan note alternative remaining available and ordinary shares issued in respect of the balance.

Interest on the floating rate loan notes will be at the six month sterling LIBOR.

The terms of the preference offer are 50p in cash for each Jessel 3.75 per cent redeemable cumulative preference share.

Full acceptance of share offer would involve the issue of 6,412,258 new Mercantile House ordinary representing 7.9 per cent of the enlarged capital.

amount of each election for more than 50 per cent comprised in an acceptance will be scaled down pro-rata to the amount of the loan note alternative remaining available and ordinary shares issued in respect of the balance.

Interest on the floating rate loan notes will be at the six month sterling LIBOR.

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Full acceptance of share offer would involve the issue of 6,412,258 new Mercantile House ordinary representing 7.9 per cent of the enlarged capital.

Hmac Industries

Hmac Industries Inc, a subsidiary of Hanson Trust, has extended its tender offer for the common shares of U.S. Industries Inc at \$23 net per share.

The extended offer will expire at midnight New York City time on May 23 unless further extended. The offer had been scheduled to expire on May 11.

RTZ sells software division for £2.5m

By Alexander Nicol

RTZ Computer Services, part of the Rio Tinto-Zinc mining group, has ended a marketing agreement with U.S. software manufacturer McCormack & Dodge by selling its software division to the American company for about £2.5m.

The Bristol-based division and its 76 employees yesterday joined McCormack & Dodge, itself a subsidiary of Dun & Bradstreet which last week announced a £71m agreed bid for Britain's Datastream.

Officials of the two companies said yesterday that there had been a conflict between McCormack & Dodge's desire to build up a long-term market share for its software products and RTZ's focus on the near-term profitability of agency business.

Mr James Miller, managing director of RTZ's surviving computer services division with 58 employees, said it would continue its agency services, including marketing and consultancy, but would avoid being too dependent on one company. The division plans to develop its own products for main-frame computers and intends to make several acquisitions.

Mr Cormack & Dodge, which is forming the newly-acquired division into a new subsidiary, specialises in producing software for IBM mainframe computers, and in adapting it for ICL mainframes.

Mr James McCormack, chairman of McCormack & Dodge, said that by rapid increases in sales force and development spending, McCormack & Dodge could achieve revenue growth faster than the 85 per cent to 40 per cent annual rate at which the software market is expanding.

"It is our strategy to have the largest market share. That you can call that in your own business segment," he said.

The price paid to RTZ Computer Services was split about equally between the new subsidiary of the software division and goodwill plus product and marketing value.

Institutions accept BPCC offer for Bishopsgate

THE BOARDS of British Printing and Communication Corporation and Bishopsgate Trust have agreed terms for the acquisition by BPCC of Bishopsgate.

Irrevocable undertakings to accept the ordinary offer have been received from Equitable Life Assurance, Prudential Assurance and Standard Life Assurance in respect of a total of 12,07m ordinary stock units—51.2 per cent of those in issue.

Consideration under the ordinary offer will be new BPCC ordinary (taken at a price of 205p) to the value of 110,053 per cent of the net asset value per Bishopsgate ordinary stock unit, subject to a maximum net asset value of 223.40. If the net asset value is over 223.70 but does not exceed 230p, an amount in cash equal to 102 per cent of the excess will be paid. To the extent that the value exceeds 230p, an amount equal to 100 per cent of the excess will be paid (out of BPCC resources) for each Bishopsgate ordinary unit.

Calculation of the value will be made as at the close of business on the date on which the ordinary offer becomes or is deemed unconditional as to acceptances.

The maximum number of new BPCC ordinary which may be required to be issued, assuming the maximum value of 223.40 and full acceptance of the ordinary offer, is some 28.3m.

This would represent some 19.2 per cent of the enlarged ordinary capital of BPCC.

On the basis of full acceptance of the ordinary offer and the estimated current value of some 203.1p, a valuation of some £2.7m is placed on the whole of the Bishopsgate ordinary.

Hill Samuel principals, will make a separate cash offer for all or any of the new BPCC ordinary to which holders of Bishopsgate ordinary stock units will become entitled at 190p per share, free of all expenses.

Bishopsgate ordinary stockholders who accept the cash alternative will therefore receive cash equity to 102 per cent of the value up to a value of 230p, together with 100 per cent of the excess value over 230p.

Under the irrevocable undertakings, stockholders have undertaken to take BPCC ordinary and not to elect for the cash alternative in respect of 8.03m Bishopsgate ordinary.

Holders of Bishopsgate ordinary will be entitled to the second interim dividend of 2.3p in respect of the year to March 31 1984.

The new BPCC ordinary will not rank for the final dividend payable on existing BPCC ordinary in respect of 1983.

It is proposed that existing

holders of BPCC ordinary shall be given the opportunity to purchase for cash the new BPCC ordinary being issued under the ordinary offer, at the underwritten price of 190p, to the extent that the holders of Bishopsgate ordinary elect to receive the cash alternative.

Maximum new BPCC ordinary for which a shareholder may apply will be limited to eight new BPCC ordinary for every 11 BPCC ordinary of which he is the registered holder today.

Pergamon Press is acting as sub-underwriter in respect of some £10m of the underwritten new ordinary, but will not be taking up any of its entitlement under this offer to BPCC shareholders, in order to give other shareholders an opportunity to increase their proportionate holding in BPCC.

Mr Robert Maxwell, who owns 927,643 ordinary of BPCC in his personal capacity, will be applying for his entitlement.

An offer for the preference of Bishopsgate will be made on the basis of £100 cash for every £100 nominal stock.

Bishopsgate has outstanding £4m 7p per cent to 17 per cent stepped interest debenture stock 2023. Appropriate proposals will be put to holders of stock for its cancellation at a price of not less than £118 per £100 nominal, together with accrued interest.

THE BOARD of William Leech, housebuilding and development concern, considers the bid from C. H. Beazer (Holdings), property developer, to be "offensive" to the company and in no way represents the interests of its shareholders, who are strongly advised to continue to take no action.

It is the firm view of the Leech board and its advisors that the offer represents a gross undervaluation of the company and its potential.

Mr J. R. Adamson, chairman of Leech, yesterday received a visit from Mr B. C. Beazer, chairman and managing director of the suitor.

The board's response to Beazer's approach will be issued to Leech shareholders following receipt of the offer document.

The Leech directors and their families will not be accepting the offer in respect of their holding, and Mr W. C. Leech, president, who has a power of veto over the sale of Leech shares held by the William Leech Foundation, has informed the board that he is not in favour of the Foundation accepting the offer.

Leech has been notified that Beazer holds 1.92m of its shares, while Poco Properties no longer owns 1.02m Leech ordinary.

BIDS AND DEALS IN BRIEF

Lincroft Kilgour, the cloth merchanting and menswear group, has sold its holding of 1.49m shares — 12.42 per cent of the equity — offRichard, the yarn manufacturing group.

The shares were placed by Richard stockbrokers, Parsons & Co, with a number of institutional and private investors at about the market price of 34-35p.

Lincroft bought 1.49m of the shares in two tranches in late 1982 and early 1983 at about 20p each.

Mr Tony Holland, Lincroft chairman, said: "It was an investment which the market price changed rather dramatically as we sold. Our investment policy puts an emphasis on capital growth."

The Merchant Navy Officers Pension Fund has made an agreed offer for Oil and Gas Production.

It values OAGP at £15m and the price of 83.3p per share represents an increase of more than 54 per cent over the closing middle market price of 41p on November 21 1983, the day before the OAGP directors announced they were investigating alternatives to maximise the company's share value.

Robert Moss, maker of plastic moulded injections, has acquired Unilever's subsidiary of Gullford for £100,000, satisfied by the issue of 107,524 ordinary shares.

Unicap supplies small plastic components, and its range will be transferred to and absorbed into the Moss operation at Kidlington. Moss is expected to benefit to the extent of some £150,000 additional turnover annually and around £30,000 more profit.

The following proposed mergers are not being referred to the Monopolies and Mergers Commission: Woolworth Holdings and Comet Group; Paragesa Holdings, SA and Group Bruxelles; Lambert SA and substantial minority in Henry Ansbacher Holdings; Suter and Francis industries.

Fairley Holdings has acquired a 35 per cent shareholding in Hy-Comp for a total consideration of £210,000.

Based in Ashford, Middlesex, Hy-Comp is a specialist in the preparation and supply of microchips and the manufacture of high technology microchip-based components used in hybrid electronic assemblies.

The company also supplies surface mounted devices.

AGF Research has purchased 60 per cent of Medical Direct Mail Organisation from the Forton Group for a consideration wholly in cash. MDMO specialises in selective direct mail and marketing systems for the health care industry.

TR Energy has agreed to acquire certain oil and gas interests from the BSC Pension Fund Trustees, principally the convertible subordinate debentures of Maynard Oil, Crystal Oil, and Kirby Exploration.

These companies have substantial reserves, mostly in gas in Texas and Louisiana.

The deal takes effect from May 11. The consideration is \$1,020m (£670m), to be satisfied by the issue of 1.72m shares in TR Energy (7.3 per cent of the enlarged share capital).

The transaction is expected to last by June 15. The annual income before tax from these holdings is around \$189,000.

Westall Richardson, the privately-owned Sheffield cutlery company which is now the world's largest producer of kitchen knives, has acquired Efford Plastic of West Yorkshire, for an undisclosed sum.

The takeover will allow the company to phase out imports of knife handles from Europe. The 60 jobs at Efford Plastic will be unaffected, and Mr Maurice Efford, managing director, joins the main Westall Richardson board.

Mr Bryan Upton, Westall Richardson managing director, said the acquisition was part of a major expansion programme by his company to meet rising export sales.

Fennine Resources says its U.S. subsidiary had agreed to purchase a block of petroleum-related and real estate assets located in and around Chanute, Kansas, belonging to Mr Jerry L. Phillips.

The assets have an appraised or mutually agreed value of approximately \$8m carrying existing mortgage and loans of \$3.05m. Fennine is paying \$125m cash for the complete portfolio.

McCorquodale's offer for Avon Valley Investments has been accepted in full. The principal subsidiary of Avon Valley Investments is Varracott of Farnham. The acquisition represents an initial entry by McCorquodale into the heat set web and gravure colour markets.

Granville & Co. Limited

Member of NASDMM  
27/28 Lovat Lane London EC3R 8EB Telephone 01-621 1212

Over-the-Counter Market

1983-84 High Low	Company	Price Change	Gross Yield	P/E	Fully Paid
142 120	Ass. Brit. Ind. Ord. ...	152	—	6.1	4.5 17.1
158 117	Ass. Brit. Ind. CULS ...	144	—	20.0	6.9 —
78 53	Grey Technologies ...	61	—	5.1	10.9 17.4
38 21	Armagas & Rhodes ...	33	—	—	— —
300 141	Bardon Hill ...	328	—	7.2	2.2 13.4 27.2
58 32	Group Ind. CULS ...	53	—	2.5	8.0 6.2 8.8
201 197	CCL Ordinary ...	201	—	5.0	2.5 —
152 121	CCL 11pc Conv Pref ...	152	—	15.7	10.3 —
680 100	Carborundum Abrasives ...	530	—	5.7	1.1 —
249 100	Cindie Group ...	103	—	17.5	17.0 —
69 45	Deborah Services ...	65	—	6.0	8.8 26.4 59.1
222 75	Frank Horrell ...	222	—	—	— —
203 76	Frank Horrell Pr Ord ...	201	—	8.7	4.3 8.4 13.9
89 26	Frederick Parker ...	25	+ 3	4.3	14.8 —
38 22	George Ind. CULS ...	35	—	—	— —
80 46	Ind. Precision Castings ...	50	—	7.3	14.8 17.2
2185 2180	Isis New Fully Pd Ord ...	2185	—	150.0	5.9 —
385 120	Isis New Fully Pd Ord ...	385	—	—	— —
124 51	Jackson Group ...	123	—	4.3	3.7 8.4 12.8
255 169	James Burroughs ...	250	—	11.4	4.5 13.8 14.2
425 275	Minhouse Holding NY ...	424	+ 2	4.2	1.0 10.5 23.0
176 97	Robert Jenkins ...	97	—	20.0	20.8 11.2 7.8
74 58	Scruttons ...	74	—	5.7	10.2 8.3 5.7
193 81	Torrey & Godale ...	72	—	—	7.0 15.0
444 385	Trevan Holdings ...	437	—	—	— 8.1
26 17	Unileck Holdings ...	18	—	1.0	5.6 11.8 17.1
82 65	Walker Alexander ...	82	—	5.6	8.2 7.3 8.7
276 236	W. S. Yeates ...	245	—	17.1	7.0 5.9 11.7

This advertisement is issued in compliance with the requirements of the Council of the Stock Exchange

STAT-PLUS GROUP PLC

(Incorporated in England under the Companies Acts 1948 to 1981 Registered No. 1071698)

A leading supplier of stationery to solicitors in London and the South East of England.

Authorised	Share Capital	Issued and Fully Paid
£425,000	in Ordinary Shares of 5p each	£358,333

This advertisement is issued in compliance with the requirements of the Stock Exchange and in connection with the placing by Laurence, Prust & Co. of 1,911,106 Ordinary Shares of 5p each of Stat-Plus Group PLC ("the Company") at 110p per share.

An application has been made to the Council of the Stock Exchange for the grant of permission to deal in the whole of the issued share capital of Stat-Plus Group PLC in the Unlisted Securities Market. A proportion of the shares being placed is available to the public through the market. It is emphasised that no application has been made for these securities to be admitted to listing. Particulars relating to the company are available in the Extel Unlisted Securities Market Service and copies of the Prospectus may be obtained during normal working hours on any weekday (Saturdays and Bank Holidays excepted) up to and including 29th May, 1984, from:

LAURENCE, PRUST & CO.

Basildon House, 7/11 Moorgate London EC2R 6AH

Ladbroke Group

Ladbroke Group has acquired 75 per cent of shares in Oliviers (UK) for \$64,150 (subject to adjustment). The consideration has been satisfied by £185,000 in cash and £185,220 in the allotment of 94,731 fully-paid 10p shares in Oliviers. The balance will be satisfied by the allotment in 1985 of further Ladbroke shares.

The 94,731 Ladbroke shares will call for quality for the final dividend to be paid next month.

Oliviers (UK), a Luton based private company, has expanded rapidly since 1982 and now has 20 stores in England and Scotland in high street locations.

Mr Ian MacKechine, managing director of Oliviers retains a 25 per cent shareholding and will lead the company's expansion programme.

Fado Investments

Fado Investments has acquired more than 5 per cent of the issued capital of Oliviers Paper Mills, an associate of B&E Engineering Services and other UK manufacturing companies.

Tikkurilaa Varitehtaat Oy purchased on May 11 a further 450,000 ordinary shares in Donald Macpherson at 125p, and now owns 2.35m ordinary (13 per cent).

Application has been made to the Council of the Stock Exchange for the grant of permission to deal in the Unlisted Securities Market in all of the ordinary share capital of the Company. It is emphasised that no application has been made for these securities to be admitted to listing. A proportion of the shares being placed is available to the public through the Market. This advertisement is issued in compliance with the requirements of the Council of the Stock Exchange.



BRIKAT GROUP plc

(Incorporated in England under the Companies Acts 1948 to 1981 No. 1135577)

PLACING

by LAING & CRUICKSHANK incorporating McAnally, Montgomery & Co.

1,206,500 Ordinary Shares of 5p each at 140p per share payable in full on application

The Ordinary Shares which are the subject of this Placing rank in full for all dividends hereafter declared or paid on the ordinary share capital of the Company.

Authorised	Share Capital	Issued and to be issued fully paid
£300,000	in 6,000,000 Ordinary Shares of 5p each	£235,000

The Group's main business is the production and distribution of its own packaged business accounting software and the distribution and maintenance of micro-computer systems. The software is marketed in the U.K. under the name PEGASUS. Related to these activities, the Group sells computer stationery and consumables. The Group also prints and supplies general stationery and distributes office equipment.

Further particulars of Brikat Group Plc are available in the Extel Unlisted Securities Market Service and copies of the Prospectus may be obtained during business hours on any weekday (Saturdays and public holidays excepted) up to and including 31st May 1984 from:-

LAING & CRUICKSHANK incorporating McAnally, Montgomery & Co., Piercy House, 7 Copthall Avenue, London EC2R 7BE and also at our offices in Belfast, Eastbourne, Glasgow and Taunton.

Republic National Bank of New York

A subsidiary of REPUBLIC NEW YORK CORPORATION

Consolidated Statement of Condition

(In Thousands)

ASSETS		LIABILITIES AND STOCKHOLDER'S EQUITY	
March 31, 1984			
Cash and demand accounts	\$ 130,796	Deposits	\$7,348,506
Interest bearing deposits with banks	4,157,518	Short-term borrowings	366,582
Precious metals	175,156	Acceptances outstanding	745,144
Investment securities	1,841,574	Accrued interest payable	190,896
Federal funds sold and securities purchased under agreements to resell	200,000	Other liabilities	98,883
Loans, net of unearned income	2,351,380		
Allowance for possible loan losses	(99,210)		
Loans (net)	2,302,170		
Customers' liability under acceptances	735,774	STOCKHOLDER'S EQUITY	
Bank premises and equipment	113,227	Common stock	355,000
Accrued interest receivable	178,447	Surplus	478,996
Other assets	121,300	Retained earnings	171,953
	\$9,755,962	Total stockholder's equity	1,005,949
			\$9,755,962
		Letters of credit outstanding	\$ 236,762

The portion of the investment in precious metals not hedged by forward sales was \$4.0 million at March 31, 1984.

REPUBLIC NEW YORK CORPORATION

SUMMARY OF RESULTS

(In Thousands Except Per Share Data)

	Three Months Ended March 31,	
	1984	1983
Net income	\$22,802	\$19,207
Net income per common share	\$1.38	\$1.41
Dividends declared	.40	.38

5th Avenue at 40th Street, New York, New York 10018 (31 offices in Manhattan, Bronx, Brooklyn, Queens, & Suffolk County)

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A subsidiary of TRADE DEVELOPMENT BANK HOLDING S.A. Luxembourg

## UK COMPANY NEWS

### Baggeridge well ahead at £0.49m midterm

GROWTH at Baggeridge Brick, the Dudley-based supplier of materials to the construction industry, continued apace in the six months to March 31 1984, with pre-tax profits jumping from £300,000 to £492,000 or turnover ahead from £3.15m to £3.86m.

The directors explain that an increase in production at Sedgley was made possible by new brickmaking plant installed a year ago. This, together with the introduction of natural gas in the last quarter at this works, contributes largely to the improved first half result. Natural gas also became available at Kingsbury from the middle of March, they add.

There continues to be a keen demand for the company's specialised products which are sold into a wide market in the UK, they report, and it is anticipated that this trend will continue for the remainder of the current year.

Trading profits in the opening six months improved by £230,000 to £683,000.

With the tax charge up from £156,000 to £246,000, the net outcome showed a £102,000 increase at £246,000, while earnings per 25p share expanded from 3.6p to 5.15p.

On these the net interim dividend is lifted from 1.5p to 1.875p; last year's total being 5.25p on profits of £237,000 (£488,000).

### BTR 50% higher and major bid in the offing

BTR has started the current year showing a sharp increase in profits and is planning a major acquisition, preferably in the U.S., which could cost anything between £250m-£500m.

The likely target would have a turnover above U.S.\$1bn and BTR could make such a bid towards the end of this year, although it is more likely to be in 1985.

Sir David Nicolson, chairman, told yesterday's annual meeting that pre-tax profits, excluding Houston-based energy operations for more meaningful comparison, were some 50 per cent higher than in the opening period last year.

BTR's share price rose 20p yesterday to 480p.

The excluded energy operations which incurred substantial losses in the first half of 1983 had consolidated on a break-even

base from which a gradual improvement was in train.

Sir David said that for the group as a whole in the opening months of 1984 margins had continued to progress and order intake had been reflecting volume improvement in a number of business sectors.

Accompanying news of higher profits was an announcement of changes on the board.

After 15 years as head of the group Sir David is handing over to Mr Oweo Creech, who is to become group chairman and chief executive.

Sir David said he would be remaining on the board as a non-executive director.

Mr Creech, who yesterday celebrated his 59th birthday, said "Acquisitions have certainly continued to feature in our growth plans and our forward plans are aimed at maintaining the sort of

growth we have experienced in the past."

He said the "bumper 50 per cent profits increase" scored in the opening months of this year was arrived at after adjusting comparisons to include results of Tilling, acquired last year.

Sir David reported Tilling was now integrated into the BTR organisation, the necessary structure changes had been implemented and the BTR reporting system introduced.

Profits were increasing and the full fruits of the Tilling acquisition would be very evident in the course of one year or two years at the most.

Mr Creech has given himself two years in which to find a successor for his own top job, he said later yesterday: "I would not expect to be chief executive for more than another two years. After that I will become non-executive chairman."

### J. Beattie growth rate slows down

SECOND HALF pre-tax profits of James Beattie, retail stores operator, rose by £292,000 to £3m and, coupled with a £115,000 improvement to £1.15m in the first six months, left the result for the year to January 31 1984 ahead from £3.48m to £4.19m.

As regards the current 12 months, the directors report that trade has not been buoyant in the first few weeks and sales by April 30 were only 3 per cent above those for the corresponding period.

Turnover for the year under review pushed ahead from £29.51m to £43.38m, including VAT. On this, a trading result of £4.21m (£3.51m) was struck before interest payable of £23,000 (£26,000) and the inclusion of £69,000 (£20,000) on account of interest received.

Earnings per 25p share advanced from 8.01p to 9.79p following a tax charge of £1.95m (£1.64m), and the net dividend is lifted from 2.65p to 3.4p.

The directors report that the company is hoping to be able to begin an extension to its Birkenhead store in 1984 and possibilities elsewhere are being considered.

### Matthew Brown at £2.73m as growth is maintained

AS FORECAST at the last AGM, Matthew Brown, brewer, continued its progress in the six months to March 31 1984 with pre-tax profits advancing from £2.51m to £2.73m.

This was achieved on an increase in turnover from £17.72m to £19.23m and, following depreciation of £780,000 (£882,000), the trading outcome finished £411,000 higher at £2.73m.

The pre-tax results included a £3,000 (£24,000) profit on disposal of properties and investments and £8,000 (same) for income from investments. It was after interest payable of £46,000 (£121,000 received).

With tax taking £1.22m (£960,000), earnings per 25p share fell from 7.54p to 7.19p. However, to reduce disparity with the final dividend, the interim distribution is being raised from 1.5p to 1.75p net. Last year's total payment was 7.42p from profits of £8.43m.

Following the proposed changes contained in the 1984 Finance Bill, the tax charge for the half year has been calculated at 47.5 per cent and provision has also been made for deferred tax on all material timing differences arising in the period at a rate of 38 per cent, making an effective rate of 44.5 per cent compared with 38.3 per cent for the corresponding period last year.

The directors consider it is likely that provision for deferred tax will be required in respect

#### BOARD MEETINGS

Following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividend and financial statements and are available as to whether the dividends are interim or final and the sub-divisions shown below are based mainly on last year's timetable.	May 22
Manitex Industries	May 22
Management Agency & Music	May 22
North Midlands Construction	May 22
Trade & Finance	May 22
Sidley	May 22
Western Securities	May 17
Associated British Foods	May 21
GT Global Recovery Inv. Tr.	May 24
Goldberg (A)	May 24
Mil (Philip) Investment Trust	May 24
JSJ Computer	May 21
London Pavilion	May 18
London Trust	May 17
Maccosig Martin Investments	May 23
Norcross Tenney Light L. Tr.	May 25
Northern Securities Trust	June 14
Personal Assets Trust	May 17
Reid & Neeson International	May 17
Sandhurst Working	May 24
States Food Products	May 17
Tobac	May 18
Toshiba	May 25

of capital allowances received in previous periods.

The amount of provision which will be an extraordinary charge against the profit for the year has not yet been accurately calculated.

This year's trade includes some 10 weeks' contribution from the newly acquired Carlisle public houses, but this gain was offset by the fact that Easter fell within the first half of last year.

The company's two bitter beers have held up well in what remains a depressed trading region. Sales of its mild beers are slightly down.

Confidence in Slalom, the directors state, is such that, since the end of the first half, the company has been able to sell the national take-home market for the first time, albeit on a modest scale.

The profit margin is small in this exceptionally competitive field but supported by highly successful sales to the company's tied and free-trade outlets, the contribution will be positive, they say.

They add that they cannot reopen any debate on the T. and R. Theakston acquisition proposals, on April 17 in the High Court.

Judgment was given in favour of Paul Theakston, confirming the legality of his holding of a majority interest in his company, supported by a loan from Matthew Brown.

The directors understand that an appeal is to be lodged against the judgment of the High Court before any further progress can be made.

### Warnford Investments dips to £3.7m

A REDUCTION in pre-tax profits from £3.84m to £3.72m has been shown by Warnford Investments for the year to December 25 1983, although at the end of the last full year directors predicted a satisfactory increase in revenue both before and after tax.

The net final dividend of this close company which invests in property has been raised from 7p to 7.5p which lifts the total from 12.5p to 13.5p net.

Turnover moved up from £4.49m to £4.95m.

During the year the directors say a small investment was made in oil wells in Oklahoma in the U.S. Of the amount invested £134,454 has been charged against revenue for the year. No appreciable income was received in 1983, but all the wells are now in production.

Depreciation is now provided on freehold buildings and an amount of £26,268 has been charged for the year.

Investment properties owned

by the group were valued on the basis of open market value at the year end at a total of £47.4m. No allowance has been made in this figure for expenses of sale or for tax, which would arise in the event of the properties being sold.

After tax, profits decreased from £2.09m to £1.87m. There was an extraordinary debit this time of £230,000 representing the re-investment of deferred tax following the Finance Bill.

**Intervision rights**

THE Intervision Video rights issue resulted in 77.53 per cent of the new ordinary shares being taken up by shareholders, and the balance of 1.14m shares has been sold in the market at a premium which will be distributed to those who did not take up their provisional allotments.

# £10,000 TO INVEST?

## Two outstanding opportunities from Britannia Building Society.

7 DAYS NOTICE ACCOUNT. YOU'LL FIND IT VERY HARD TO BEAT.	
<b>7.50%</b>	<b>10.71%</b> *
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ANNUAL RETURN WITH HALF-YEARLY INTEREST ADDED	
<b>7.64%</b>	<b>10.91%</b> *
NET	GROSS
Rates subject to variation. *Gross yield assumes 30% basic rate tax.	

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<b>7.75%</b>	<b>11.07%</b> *
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If you have £10,000 to invest and don't want it tied up, our 7 Days Notice Account is one of the best plans you'll find.

It pays 7.50% net (10.71% gross) and there's no penalty on withdrawals if you give us just 7 days notice.

You can add to your initial investment at any time, and you can receive the interest half yearly or leave it in the account where it will earn even more (7.64% net, 10.91% gross).



We're confident that if you've got £10,000 to invest you won't find any national building society offering more than 7.75% (11.07% gross) for only 28 days notice of withdrawal.

And, should you need it, you can get instant access to your money. All you forego is the equivalent of 28 days interest on the amount you withdraw.

Alternatively, you can have your interest paid to you half-yearly. Or it can remain in the account and earn even more interest (7.90% net, 11.29% gross).

If you don't wish to invest as much as £10,000 you can still invest in these two outstanding plans. For as little as £500 you can get 7.25% net (10.36% gross) in the 7 Day Account and 7.50% (10.71% gross) in the 28 Day Account.



Tick boxes as appropriate.

Please send me full details of your range of investment plans.

I/we enclose cheque No. .... value of ..... to open a Britannia 7 Days Notice Account/28 Days Notice Account. (Delete as appropriate). Minimum investment £500. For 0.25% bonus rate, minimum investment £10,000. Maximum £30,000. Joint Accounts £60,000.

Payment of half-yearly interest:

Add to the account.  Into my/our existing Britannia Account No. ....

Into a Britannia Ordinary Share Account which you will open on my/our behalf.

If you require payment direct to your Bank Account, or by cheque, please give the Society details in writing.

Full Name(s) Mr/Mrs/Miss \_\_\_\_\_

Address \_\_\_\_\_

Signature(s) \_\_\_\_\_ Date \_\_\_\_\_

Post to: Britannia Building Society, FREEPOST, Newton House, Leek, Staffs. ST13 5ND. FT15/5

### Ryan Intl. tops £1m mark but dividend still omitted

FOLLOWING consolidation of a newly acquired subsidiary at Ryan International, pre-tax profits increased from £886,000 to £1.1m for 1983. Turnover at this Cardiff-based plant hire contractor and coal factor expanded from £12.22m to £28.02m.

In the light of circumstances and uncertainties arising from the industrial dispute between the NCB and NUM, the directors are not recommending the payment of a dividend. This is contrary to their prediction at the end of 1982 that dividends would be resumed.

Earnings per 5p share fell from 2.86p to 0.97p.

During 1983 the directors say that the group acquired the outstanding share capital of Ryan Europe SA which has been consolidated as a subsidiary. In previous years these results had been included on an associate basis.

In coal recovery operations the directors say that Ryan Europe maintained a "super-

ative performance" throughout the year, but in the UK and U.S. significant losses were incurred. Building products continued to make progress in sales turnover and profitability.

The financial results of newly acquired subsidiaries have been consolidated as from the beginning of 1984.

At the operating level profits increased sharply from £664,000 to £2.52m which included associate losses of £143,000 against previous profits of £584,000.

Interest payable fell to £1.35m against £432,000. Interest receivable was £78,000 (£110,000).

Tax amounted to £365,000 (credit £58,000) and there was a pre-acquisition profit of £433,000 in Ryan Europe this time.

At the end of the last full year the directors said that the level of group borrowings would increase substantially as a result of considerable growth in operations and the Ryan Europe acquisition.

### BCWA Private Patients Scheme sets new records in 1983

- Income from contributions advanced by 51% to a record £5.4 million.
- Benefits paid to members rose by 59% to £4.7 million.
- Operating costs reduced further to 9.3% of contribution income.
- Significant membership increases in all main classes of business.

Copies of the 1983 Report and Accounts can be obtained from the Secretary: **bcwa** Bristol Contributory Welfare Association, Bristol House, 40-56 Victoria Street, Bristol, BS1 6AB. Telephone (027-2) 293742.

### BASE LENDING RATES

A.B.N. Bank	9%	Heritable & Gen. Trust	8 1/2%
Allied Irish Bank	8 1/2%	Hill Samuel	8 1/2%
Amro Bank	8%	C. Hoare & Co.	8%
Henry Ansbach	8 1/2%	Hongkong & Shanghai	8%
Armo Trust Ltd	8 1/2%	Kingsnorth Trust Ltd	8 1/2%
Associates Cap. Corp.	9%	Knowsley & Co. Ltd	8 1/2%
Banco de Bilbao	8 1/2%	Lloyds Bank	8%
Bank Hapoalim BM	9%	Maitland Limited	8%
Bank of Ireland	8 1/2%	Edward Mansel & Co.	10 1/2%
Bank of Cyprus	8 1/2%	Merrill & Sons Ltd.	8 1/2%
Bank of India	8 1/2%	Midland Bank	8 1/2%
Bank of Scotland	8 1/2%	Morgan Grenfell	8%
Banque Belge Ltd.	8 1/2%	National Bk. of Kuwait	8%
Barclays Bank	8 1/2%	National Girobank	8%
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Charterhouse Japbet.	8 1/2%	Trustee Savings Bank	8%
Choularons	10 1/2%	Citibank NA	8 1/2%
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Exceter Trust Ltd.	10 1/2%	Exeter Trust Ltd.	10 1/2%
First Nat. Fin. Corp.	11%	First Nat. Fin. Corp.	11%
First Nat. Secs. Ltd.	9 1/2%	First Nat. Secs. Ltd.	9 1/2%
Robert Fraser	10%	Grindlays Bank	10%
Grindlays Bank	10%	Guinness Mahon	9%
Guinness Mahon	9%	Hambros Bank	9 1/2%
Hambros Bank	9 1/2%	7-day deposits 5.75% 1-month 6.50% 3-month 7.25% 6-month 7.75% 12-month 8.25%	
		7-day deposits on sums of under £2,000 5%, £10,000 up to £20,000 6%, £20,000 up to £50,000 6.5%, £50,000 up to £100,000 7%, £100,000 up to £500,000 7.5%, £500,000 up to £1,000,000 8%, £1,000,000 and over 8.5%.	
		Domestic deposits 5.5%.	
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# FINANCIAL TIMES SURVEY

Tuesday May 15 1984

## Mobile Communications

The potential is there for a powerful expansion in more flexible and convenient systems, offering opportunities to many more users. This will create new urban networks and improvements in communications in remote regions.

### Big advantages for business users

By GUY DE JONQUIERES

MOBILE COMMUNICATIONS, hitherto the mainstream telecommunications industry's poor relation, appears set to come into its own during the 1980s. It is poised on the threshold of a powerful expansion which promises to open up a new world of convenience and flexibility for a vastly-increased number of users and to stimulate demand for a range of innovative equipment and services.

There is now a real probability that within the next few years the in-car telephone will cease to be just a rich man's toy and become a widely-available working tool. Beyond that lies the prospect of truly portable telephones, small enough to fit in a pocket, which can be used almost anywhere.

For users in the world's major business centres, such developments will offer major advantages. They are likely to be particularly attractive to anyone whose work involves a high degree of mobility and whose costs are closely-related to time—among others, fleet operators, sales representatives, plumbers and professionals such as lawyers, architects and surveyors.

The potential for the new generation of mobile communications systems goes further than just urban areas,

however. The systems may soon, for instance, offer an economic alternative to land-based networks in remote regions such as Canada's frozen north and developing countries with populations thinly-spread over large land-masses.

The reach of radio transmission, traditionally the principal medium for mobile communications, is being extended by the use of modern satellites. An international satellite network, providing sophisticated voice and data links between ships and their shore bases, is already being operated by Inmarsat. Experiments which will use satellites to provide communications with vehicles on land are also planned in North America.

#### Command

Nor are the growing benefits limited just to civilian and commercial applications. The new systems are playing an increasingly important role in the defence field, to provide battlefield communications and command and control systems.

The key to many of these advances lies in the spread of cellular mobile radio systems. Cellular systems, which rely heavily on the application of computer technology, promise to overcome many of the restraints on channel capacity

which have restricted the availability of conventional radio-telephone services and kept charges high.

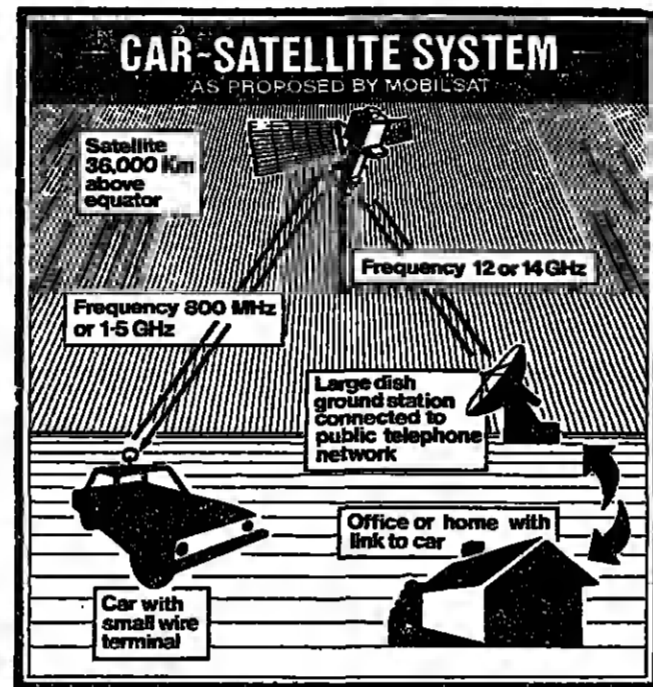
Public cellular services are already operating in several U.S. cities, in parts of Japan and in the Nordic countries. The enthusiasm of customers appears to have amply justified in practice the expectations generated by their theoretical and technical advantages.

A stampede for licences to operate cellular systems has developed in the U.S. since the Federal Communications Commission authorised the start of commercial services two years ago. By the end of this year, they are expected to be available in about two dozen American cities. National services are also to be operating in Britain and many other European countries by next year.

Unlike conventional radio-telephones, cellular systems are designed to enable a large number of different mobile radio users in the same city to use the same frequencies simultaneously without interfering with each other's communications.

They do this by splitting a city into a number of separate "cells," each served by its own transmitter/receiver or base-station. Because the base stations operate only at low power levels, the same frequencies can be re-used only a few cells apart. As a user moves from one cell to another, the system automatically switches his call to the new frequency.

Because they are controlled by modern electronic exchanges, cellular systems can offer a number of novel features such as call-barring, automatic call transfers and conference calls



How a satellite system works. By connecting the public telephone network to a ground station, people can communicate voice or data messages via satellite in rural areas which terrestrial networks are unlikely to cover

between several individuals. They are also expected in future to carry "value-added" services such as automatic telephone answering and electronic mailbox facilities.

Some experts believe that cellular systems may eventually fill much of the demand met by paging services and by telephone answering devices. Though they will probably be used predominantly for voice

telephony, they also lend themselves to the transmission of information in the form of data, facsimile and telex messages.

The number of cellular mobile units in use by the end of this year is estimated by American market research firm Frost and Sullivan at about 120,000 in the U.S. and about 70,000 in Western Europe. But by 1989, the numbers are expected to have soared to

about 1.6m in the U.S. and almost 1.1m in Europe.

Management consultants Arthur D. Little are even more bullish. They tentatively project between 1.7m and 2.5m potential subscribers and \$3bn to \$4.5bn potential revenues in the U.S. by 1987. In Europe, they believe that the number of subscribers could be between 2.2m and 4.4m by 1987.

Moreover, Arthur D. Little's calculations suggest that as volume production increases, the price of mobile units in the U.S. may drop from about \$1,000 each today to less than \$250 in 1990, by which time they would be well below the fixed cost per subscriber of local telephone networks.

As the forecasters themselves admit, however, firm evidence on which to base predictions is still fragmentary. Much will depend on the pricing levels set for cellular mobile services, manufacturers' commitment to the production of mobile units, technical developments — especially in Europe — political factors.

For a Europe increasingly worried by its ability to compete with the U.S. and Japan in high-technology markets, the advent of cellular radio could have presented an ideal opportunity to close ranks around a common system extending from the Iberian peninsula to Scandinavia.

An agreement along these lines would have been greatly to the advantage of users. It could also have formed the basis for a unified market large enough to offer European equipment manufacturers the economies of scale available to their American competitors on their home market.

That could have offered a major platform for European manufacturers to capture a bigger share of the world mobile communications market. At present, the market is dominated by Motorola, GE-Storno and E. F. Johnson, all of the U.S., while competition from Japanese companies including NEC, Oki and Matsushita is growing strongly. Among European companies, only Sweden's L. M. Ericsson and Philips of the Netherlands have a broad international base.

#### Patchwork

However, Europe has ended up opting for a patchwork of different, and probably incompatible systems. France and Germany have agreed in principle on a common standard, which seems likely to be based on a design developed by Siemens in co-operation with the West German Post Office.

Scandinavia, Spain, Austria and the Benelux countries have committed themselves to the Nordic Mobile Telephone System. Britain has chosen a standard based on the Advanced Mobile Phone System in use in the U.S. And Philips and France's CIT Alcatel are seeking customers for still another type of system, MATS-E, which they have developed jointly.

Many industry experts believe that this fragmentation will lead to unnecessary technical complications—for example in the design of facilities to allow users to "roam" across frontiers. The prices of mobile units may also be higher than they need be, because manufacturers' costs will have to be recouped over shorter production runs.

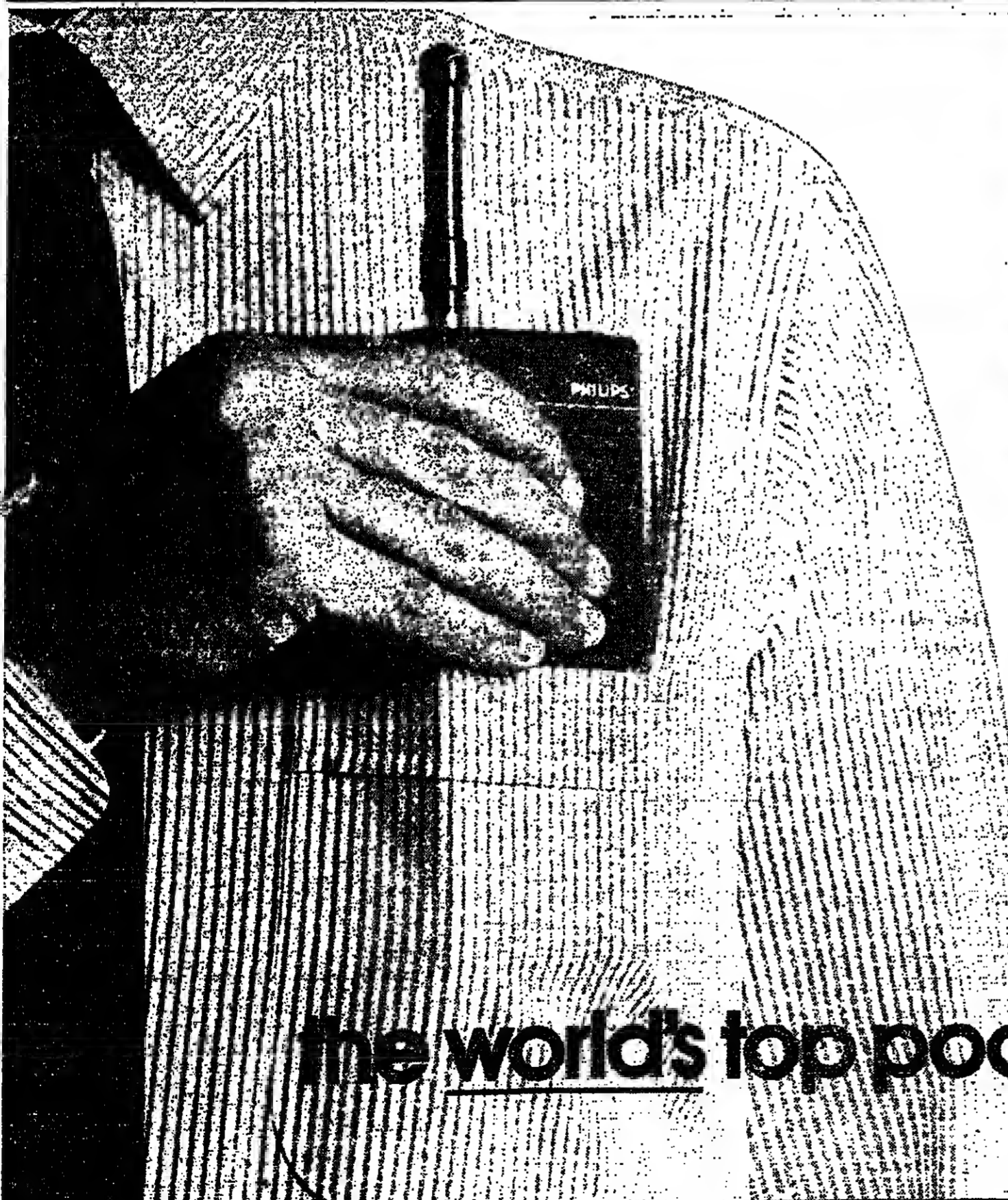
Beyond these structural prob-

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lems in Europe, some more general uncertainties remain. Experts differ over whether it will be technically possible to expand the capacity of cellular systems to the point where they could offer a universal alternative to conventional fixed telephone links. And if it were possible, what would be the economic consequences for telephone carriers?

Another imponderable is the speed at which compact handheld mobile units will become commercially available on a wide scale. Though some are starting to appear on the market, they are relatively expensive and there is scope for considerable further development, both in terms of component miniaturisation and of battery power.

Nonetheless, many experts are confident that the challenge will be met. Perhaps, before the end of this century, the two-way wristwatch radio may move out of the realm of science fiction and become a reality.



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# Mobile Communications 2

## Engineering breakthrough cuts airwave congestion

### Cellular networks

GEOFF CHARLISH

CELLULAR RADIO is being implemented because conventional systems cannot accommodate the large number of would-be subscribers.

Only a few months ago British Telecom increased the annual rental for its System 4 automatic dialled system to £800 a year—twice what it was a year or two ago—in an attempt to stem the demand.

Operating authorities and companies the world over have had similar problems, but the fact is that there are simply no more channels in those segments of the radio frequency spectrum that have been allocated to mobile radio. The effect is similar to the crowding on the medium waveband of a domestic radio—no more stations can be crammed in and many already interfere with each other.

Ways have been devised by engineers to compress each channel into a smaller spectrum space. The figure is now 12.5KHz—in the 1970s it was 25KHz and at one time it was 50KHz.

The use of higher frequencies (in the UHF band) also helps, since this automatically gives more channels.

Another worthwhile concept is "trunking." In any area, instead of a number of private user groups each having a fixed channel frequency, a number of channels are allocated to the area as a whole and each group is allocated one of them by computer when, and only when, the need arises. Each of the available channels is used more fully and service improves. Privacy is not affected.

But in the public domain, the objective of cellular radio is fully to extend the wired telephone network both to vehicles and to hand-held units that can easily be carried about in briefcase or coat pocket.

A conventional mobile radio-telephone system for a town often uses a single high-power radio transmitter near to the centre of the service area. The radius of coverage might be 15 to 20 miles. The situation is similar to the television coverage and the aerials are usually on a hill top to extend the range.

Such a system might be allocated, say, 50 channels. But the high-power transmitter prevents them being used again within perhaps 100 miles or more, for fear of mutual inter-

ference—a particular problem under certain anticyclonic weather conditions.

Cellular radio allows those channels to be used over and over again. A city area is divided into a number of "cells" (often depicted as hexagons on paper because they fit together without gaps). Each cell might be only a mile or two across and at its centre is placed a low-power transmitter just able to cover the small area properly, and a base station receiver.

**Channels**

Then the set of channels used on, say, the south-west side of the city can be used again in the north-east. There is no risk of interference because the two cell transmitters are low power.

All the cells are connected by leased telephone line (or possibly a microwave link) to a controlling computer which acts as a special kind of telephone exchange. This, in turn, is linked to the national wired telephone network.

To make a call, the mobile user keys in the number he wants and his equipment sends it to the cell base over a special control channel which all the mobiles can permanently use. The cell base station relays the

number to the computerised exchange, which then does two things.

First, it allocates a free radio speech channel and tells the mobile (over the control channel) to tune to it. Secondly, it deals out the number the mobile wants into the public telephone network. The whole process takes only a few seconds.

Someone in the fixed public network wanting to call a mobile dials a prefix code (to get into the cellular system) and the mobile's number. The cell comes into the cellular system's computer-exchange, which then pages all the mobiles over the control channel frequency. They all receive the data and immediately compare the number with their own—but only the matching one responds and is allocated a speech channel.

When a vehicle moves from one cell to another, the system knows because the base station receiver in the new cell starts to get a stronger signal than the one on the old cell. Then, if a call is in progress, the vehicle is allocated a new frequency from the new cell's set of channels. The process is so rapid that subscribers cannot usually detect it—less than 0.5 second is typical.

Starting with London, from 1985 Britain will have cellular

services offered by two competing consortia—Telecom Securicor Radio (TSCR) formed by British Telecom and Securicor, and Racal-Millicom, whose service is to be known as Racal Vodaphone.

Neither company is revealing much about cost to the user at the moment, for obvious reasons. But market researchers Frost and Sullivan have estimated that at start-up, with say, 10,000 subscribers, the total annual cost for a user (with the purchased equipment cost amortised and 200 minutes of used air time a month) might be about £1,700, which is a little less than present conventional automatic systems. At 100,000 subscribers however, the figure drops to £960.

**Extended**

In most European cities, service will start with up to six cells near the centre and then be extended. When demand becomes big enough, an important advantage of cellular radio—cell splitting—will be brought into play. The resulting larger number of smaller, lower power cells will allow even greater subscriber advantage of cellular radio—channel availability and reducing congestion.

Mobile telephones will be easy to use while the vehicle is in motion; for example, band-

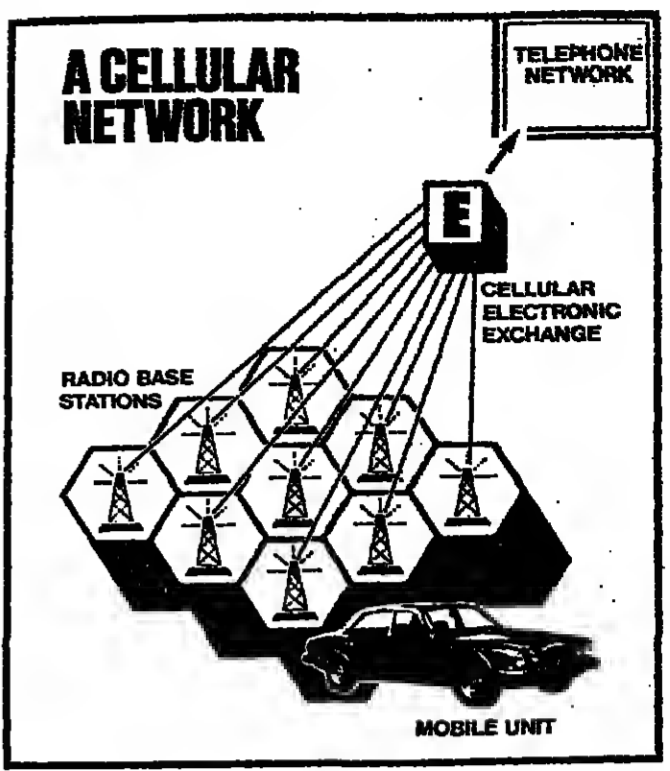
sets will not have to be taken off hook in order to "dial" on the keypad. Otherwise, they will be used just like an ordinary telephone.

Later, data terminals will appear. For example, in the U.S., a new hand portable unit is known to be under development in a joint Motorola-IBM project.

For data transmission it is possible that "packet radio" techniques will be used. This is similar to line-based packet transmission: the data to be sent is divided up into "packets" which are sent at various moments when free time arises on the channels. In this way, best use is made of the available channels.

Within one national system, "roaming" from area to area will become possible, so that a London-based vehicle will be useable in, say, Edinburgh. But as things stand, a British mobile will not be useable in other European countries because the systems are technically incompatible.

In the mid-1990s however, it seems likely that a second generation of cellular radio will emerge that is all digital, in the sense of using digital transmission for voice and data alike. Prospects for European standardisation will then arise.



## Plans and hardware come under scrutiny

### Satellite systems

PETER MARSH

GOVERNMENT officials in the U.S. and Canada are considering a satellite communications system for cars and lorries that could be in operation by the late 1980s. The system would be run jointly by companies from the two countries and connect vehicles with the land-based public telephone network.

The \$400m set of hardware, based on two satellites in geostationary orbit 36,000 km above the earth and several hundred ground stations, would serve vehicles in rural areas where terrestrial cellular radio networks are unlikely to cover.

Vehicles would need to be equipped with small aerials which, with their electronics, would cost about \$4,000 at the planned start of the service in 1988, falling to \$2,000 in the 1990s.

With the equipment, people would communicate voice or data messages with homes or offices via the satellites and ground stations. The latter would be administered by telecommunications companies and would feed into ordinary telephone links.

Telesat, a Toronto company in which the Canadian Government has a 50 per cent stake,

would run the Canadian part of the service. The U.S. partner would be one of two companies—Skylink, based in Boulder, Colorado, or Mobilsat of King of Prussia, Pennsylvania.

Plans have come under the scrutiny of the two sets of government offices in the U.S. and Canada. In the former, the Federal Communications Commission should decide next year which of the two U.S. applicants should be allowed to take part in the service.

In Canada, the Department of Communications, which has studied mobile satellite communications since the early 1970s, is due to announce in the autumn whether a formal link with the U.S. is desirable and what part the government should play in the system.

**Relay**

According to planners, by the early 1990s the satellites could provide communications for about 100,000 cars and lorries in the U.S. and Canada.

Mr Roy Anderson, who worked previously with General Electric and founded Mobilsat with ex-colleague Mr Roy Kiesling two years ago, suggests other uses for the satellite system. He says the hardware could act as relay points in the sky for data sent automatically from sensors on board trucks or railway wagons.

The sensors would produce information about the contents of these vehicles—for example,

the temperature of frozen food. By tuning into signals from the satellite, haulage companies would keep a constant check on the goods carried by their rail or road fleets.

In another application, about which Mr Anderson has opened discussions with airlines, the system would send signals to transponders fitted to aircraft and pick up messages from these vehicles automatically. In this way, the satellite hardware could identify aircraft and help to control air traffic.

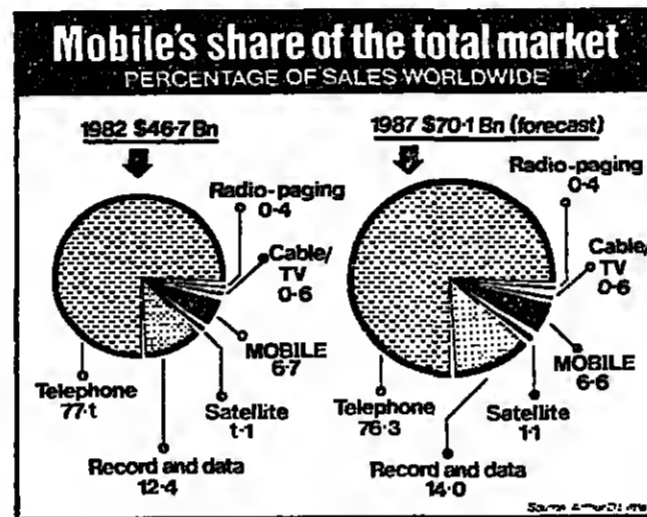
The seriousness of the discussions in North America shows how mobile communications involving satellites, which a few years ago would have been dismissed as a Buck Rogers fantasy, are fast becoming a reality.

Thanks to an international organisation called Inmarsat, satellite communications for ships are already commonplace. Set up two years ago and based in London, Inmarsat is owned by about 40 countries and earns \$40m a year by channelling voice and data messages between 2,300 ships and their shore bases.

Inmarsat leases transponders on five spacecraft in geostationary orbit to sell communications services using these satellites to telephone organisations around the world (of which British Telecom is one) which, in turn, collect fees from ships that make telephone calls or send data messages.

Inmarsat could well turn out to be extremely profitable—its annual turnover is growing at 20-30 per cent a year. The organisation expects demand for its services to increase at a rate such that up to nine new "second generation" satellites, costing up to \$500m, will be needed from 1988 onwards. Next year, Inmarsat will award a contract to build the spacecraft to one of two international consortia, either Hughes/British Aerospace or Ford/Marconi/Aerospatiale.

Mr Olof Lundberg, Inmarsat's director general, expects that by 1995 some 85 per cent of the world's 25,000 or so big ships will communicate with the shore by Inmarsat satellites. Ships of this tonnage are generally equipped with some



kind of electrical signalling apparatus, normally high-frequency radio.

Another market for Inmarsat is vessels below 1,600 tonnes such as pleasure or fishing boats; about 15 per cent of Inmarsat's current customers fall into this category. Mr Lundberg says that, by 2,000, he hopes that some 20,000 such vessels will turn into his organisation's satellites.

Two factors chiefly determine whether possible customers, whether they are car drivers or ship owners, will buy communications using the fees charged for using the service; and the cost of the transmitting/receiving hardware they require.

**Fees**

The British Telecom charge for using Inmarsat's satellites is £3.50 a minute for telephone traffic or £1.75 a minute for telex. The North American organisations that plan satellite communications services for road vehicles, by contrast, have to lower their charges considerably to make them comparable to those envisaged for cellular radio. Typically, these organisations are talking about fees of a few tens of cents a minute.

The cost of the receiving/transmitting equipment on the customer's vehicle is directly proportional both to its size and technological performance. The antennas on ships that use the Inmarsat system are similar to the "dish" aerials associated with point-to-point satellite links. The ship antennas are smaller versions of the land equipment. They cost about \$25,000 and measure about a metre in diameter. The hardware has to be steerable so that it points always in the direction

of the satellite in its geostationary orbit high above the equator.

With road vehicles, the requirement is different. Cars and lorries clearly are not big enough to carry with them "dish" antennas even of modest dimensions. And to build into the hardware mechanisms to keep the antennas pointed would not be practicable. This level of complexity would also put up the cost to a figure out of the price range of lorry or car owners.

The organisations tackling the problem in North America have proposed fairly cheap and unsophisticated radio aerials for the vehicles. These would be little more than pieces of wire and could be easily mounted on top of the cars or lorries. They would be "low gain" aerials; they amplify received signals by perhaps only a factor of two compared with factors of at least 10 with "high gain" equipment.

As a trade-off, the power emitted by the satellite must be quite high. In practice, this means a satellite radiating a total power of several kilowatts. Further, the satellite system would accommodate only a small number of voice or data channels. These would total a few thousand (or even a few hundred) as opposed to the tens of thousands of channels that today's point-to-point communications satellites can handle simultaneously.

A strategy based on low-gain aerials would provide a service in which the speech quality in telephone messages would be fairly low. But customers probably would be prepared to put up with this, just as they do not seem to mind generally low-quality reception on conventional mobile radio links.

## Military prepares for information battle

### Armed forces

PETER MARSH

THE WORLD'S superpowers are spending billions of dollars to create communications networks that link up every artefact of their armed forces, from the humble soldier on the battlefield to the people in control of missiles and anti-satellite weapons.

According to military strategists, much will depend in any future large-scale war on the ability of the adversaries to keep their communications systems intact and to stop foes "tapping" the networks to find out what they are doing.

A similar philosophy applies in the myriad of lesser confrontations that are being fought on the planet at any time. Military chiefs in Britain, for example, are still digesting the lessons in communications strategies from the Falklands War of two years ago.

Also crucial in the major battles of the future will be the capability of armies simply not to be overwhelmed by the quantities of information that will come their way via electronic networks.

As a result of this, telecommunications and electronics are attempting to apply to the battlefield some of the techniques incorporated in office-automation systems that aim to help the hard-pressed business executive.

**Advantage**

The emphasis on communications has led to a spiralling pattern of research as countries bid to out-do any possible enemies in their ability both to send messages and to gain an advantage through eavesdropping.

Military scientists are pressed, first, to work on techniques of electronic warfare to counter opponents' capabilities in information gathering.

The techniques, for example, aim to intercept messages to find out useful information, perhaps about troop movements; to jam the other side's radio to stop any messages getting through; or to use direction-finding techniques to locate the position of radio operators and take suitable action.

The next stage in the hierarchy of research is to discover ways of combating these intelligence techniques. This was born a battery of methods known in the jargon of military specialists as electronic counter-counter-measures (ECCM).

One obvious ECCM technique is automatic encryption. A micro-electronic device in an individual radio "scrambles" in a set way waveforms arising either from a voice message or a segment of data.

Encryption would certainly apply to vitally important messages sent, for example, over long-distance satellite links between governments or from heads of armed forces to commanders in battlefields.

But probably only about 80 per cent of the radios in use by combat soldiers include encryption devices. An ECCM technique growing in popularity among the technologically aware armies of the Western world and the Middle East is frequency hopping.

Soldiers conventionally transmit on just one frequency. They can operate various time-honoured measures to reduce opportunities for listening in or jamming. For instance, they can use the radio only sparingly or keep the power of transmissions low to stop the message carrying to within enemy lines.



Operating field equipment. Radio counter-measures are a continuing research priority

A more sophisticated method is to build into the radio set a system that automatically changes the frequency of the message in a random fashion and at a rate of anything up to thousands of times a second.

"Friendly" radios have similar devices that unscramble the frequency hops. Anyone listening in who does not know the pattern of the jumps would be unable to detect what is in the messages.

Neither would an enemy be able to jam effectively. To do this, a counter-measures officer needs to know the frequency on which a radio is receiving signals. He then directs "noisy" radiation at or around this figure to obliterate the traffic.

But if he can never be sure at what frequency the messages are being sent there is little he can do.

The U.S. Army, with a project called SINGARS, is to spend \$4bn until the early 1990s on 250,000 frequency-hopping radios to be divided among its 780,000 soldiers. The Army has asked TTT to make the first batch of 28,000.

Many of the radios will be spare. The Army plans to give a radio to an average one soldier in every 12.

Members of the British Army are more fortunate in quantitative terms. Some 30,000 radios are divided among a combat force of 150,000. But the standard radio is nothing like as advanced as the SINGARS type. This is the Clansman, which the Ministry of Defence has issued since 1975. The MoD will continue buying Clansman until 1995. Only after this will the Ministry issue more modern frequency-hopping radios in large numbers.

Clansman is made by several companies, including Racal, Marconi and MEL. The radio costs between £5,000 and £10,000 depending on the company supplying the hardware; whether it works in the high-frequency (2-30 MHz) or very high-frequency (30-80 MHz) bands.

**Typical**

Clansman is typical of the radios for combat forces of which, according to industry estimates, the world's armies (not including China and the Soviet bloc) buy some 200,000 worth £650m each year.

Two British companies, Racal and Marconi, make the more advanced frequency-hopping radios. Racal has sold several thousand of its Jaguar frequency-hopping sets worth £35m, mainly overseas. The company has also sold 120,000 Clansman units, also mainly exports.

Other companies with similar frequency-hopping radios include Harris of the U.S. and Tadiran of Israel.

In a battle, such "combat-

net" radios would be handled mainly by squadrons of soldiers operating from a brigade headquarters, which is at least partly mobile. Typically, a brigade contains about 2,500 people.

But communications links between brigades—or further up the chain of command to divisional level and ultimately to the head of the armed forces—would be accounted for not solely by radio but by a mixture of microwave, cable and satellite links.

The British Army has chosen for its system to link brigades and higher levels of command Ptarmigan telecommunications equipment made by Plessey. The Ministry of Defence has ordered Ptarmigan hardware worth some £400m. The equipment is based on switching equipment developed for Britain's System X civilian telecommunications programme.

**Partner**

In another application to military work of civilian hardware, Racal says it may base military communications systems on the cellular radio equipment which it is to introduce to the UK next year. Racal (partnered with Millicom of the U.S.) is one of two companies the British Government has licensed to operate cellular radio for cars and lorries.

Satellites are crucial to the chains of command in the higher levels of the world's military hierarchies. The U.S. relies largely on its Defence Satellite Communications System (DSCS) vehicles of which eight are in operation at any time. The craft sit in four reserved positions in geostationary orbit 36,000 km above the earth—two over the Pacific and one each above the Atlantic and Indian oceans.

The vehicles relay communications between ships, army and air force command posts and government buildings. They use the 7-8 GHz frequency band reserved by international convention for military use.

The DSCS-III satellites, of which the U.S. has launched 15, are being replaced by a series of more modern DSCS-III vehicles, of which just one is so far in orbit. These craft contain frequency-hopping hardware to make them resistant to jamming. They are also "hardened" against the radiation given off by nuclear explosions—the so-called electromagnetic pulse—that in a nuclear conflict would threaten to destroy most forms of electronics communication.

The U.S. has a further battery of satellites due to be launched later in the 1980s that will supplement the DSCS-III craft. This is the 51st Milstar system. To be built by Lockheed, that will use extremely high frequencies above 40 GHz and involve communications links not only from the space vehicles to earth but between individual satellites.

## When you're out of the office who's taking care of the business?

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## Radio helps the handicapped

SKIING HAS become an increasingly popular sport over the last decade. But blind skiers until now have had to rely on shouted instructions from sighted companions to help them steer a way through the slope past fallen novices and other obstacles. Now these can be avoided through the use of radio transmitters.

Eye Telecommunications has donated several Pockettones for experiments with mobile communications for this purpose. Mr Eddie Johnson, athletics coordinator for the blind in Northern Ireland, who is behind the project, originally put the idea to American skiers while on a Churchill Fellowship.

The system brings a number of advantages, not least that it makes sure that the instructions do reach the skier. On a crowded slope it is difficult for turning signals to be heard however loud they are shouted.

The Pockettone is adapted with a earphone system called an acoustic tube which was developed by the Quest Youth Workshop in Belfast. It can also be used by blind runners on the athletics track where it does away with the need for a coach's wrist.

When Operation Raleigh, the round-the-world expedition aimed at young adventurers, sets sail from Britain in November it will have several mobile radios in its equipment. These are to be used by land explorers and will help in scientific, con-



Wheelchair passenger for Birmingham's experimental "Ring and Ride" bus service for the disabled, which uses two-way radio to pick up other passengers en route

servation and community projects.

Operation Raleigh is a four-year project within which are 40 different expeditions. About 4,000 young people from all over the world aged between 17 and 24 will take part.

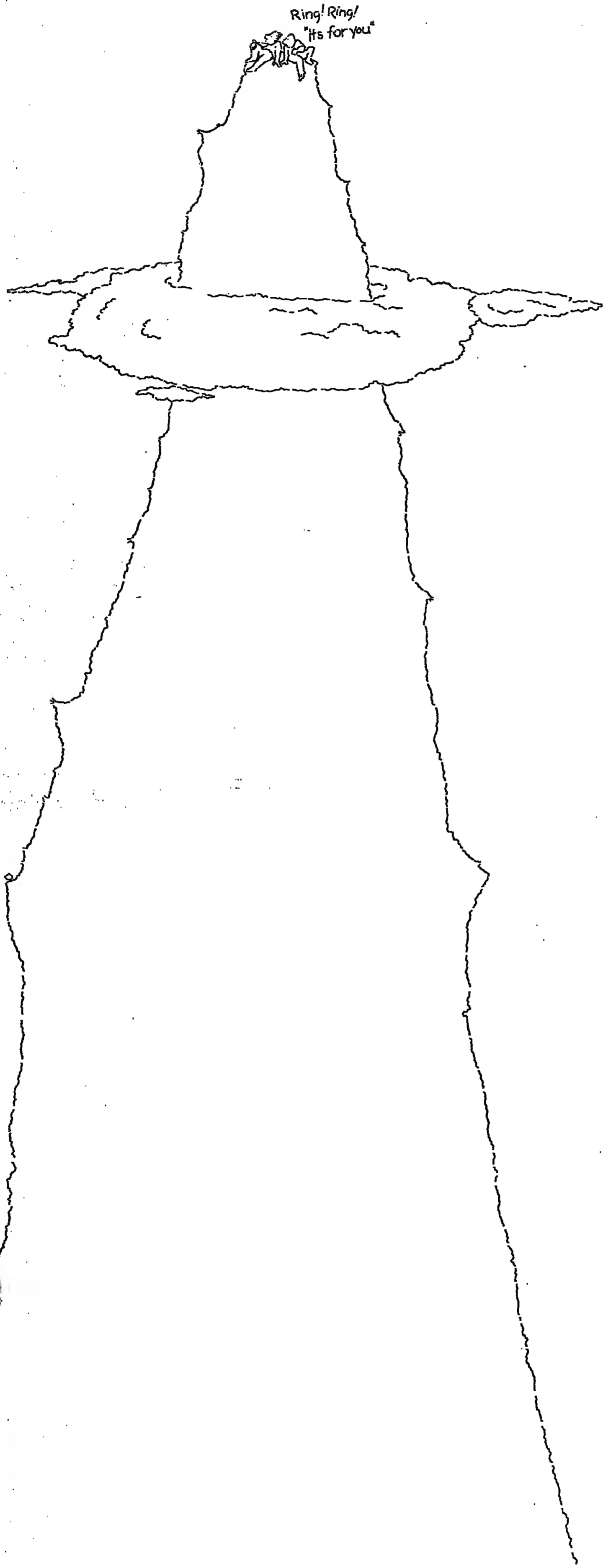
Taxis have been traditional users of mobile radios and in Sweden a central computerised booking system has been introduced for Stockholm taxi drivers. Stockholm's inhabitants on the way home from a party, for example, generally call a taxi, since drink and drive laws

are much stricter than in the UK.

A single telephone number covers all the city's taxis. Telephones are placed at taxi stands to link passengers to the central booking office.

The taxi driver can tell the system that he will soon be free to take the next customer and the computer then hunts round for a customer waiting in his area. If a driver is in a zone where several other cars are already free, the computer directs him to the nearest free zone via the shortest route.

**Elaine Williams**



Real technological revolutions, the kind that change people's lives, are few and far between in an age of hype.

The motor car changed the way we travel; the wireless changed the way we entertain ourselves; and the first truly portable telephone will just as profoundly change the way we communicate over distances.

Far more than just a Utopian dream, such a telephone system is only a matter of months away.

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You may not want to call New York from the top of Snowdon (although if you do there'll be no problem).

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**RACAL**

# Mobile Communications 4

## Most of the population will have access to cellular services in five years

# Market set for wide expansion...

BY THIS TIME next year, if all goes according to plan, a select band of subscribers in Britain should be experiencing the advantages of mobile communications by means of cellular radio. And system operators should be getting the first inkling of whether cellular is likely to be the commercial bonanza which some enthusiasts have forecast.

Cellular services are due to start by the end of March, initially in London and the South East. By the end of the first year, they should cover all major cities and the trunk roads connecting them. By late 1989, cellular services should be available to more than 90 per cent of the population and over more than two thirds of the UK land area.

The advent of cellular systems promises to ease the severe capacity constraints

which have limited the number of subscribers to existing UK mobile telephone services to about 20,000. Only 3,000-4,000 of these enjoy full automatic dialled service, and in the London area the waiting list is almost as long as the roster of users.

At present, capacity restrictions and high charges mean that car telephones are something of a rich man's toy. Cellular technology promises to bring them within reach of a far wider market and to allow mobile data as well as voice communications. Moreover, several manufacturers are developing compact hand-held units, which could make the truly portable briefcase or pocket telephone a reality within a few years.

How large the cellular market will turn out to be is still far from certain, how-

### The UK

GUY DE JONQUIERES

ever, and estimates differ widely. The two consortia which have been licensed to offer competing national services in the UK.

One group, Telecom Securicor Cellular Radio (TSCR), is a 50-50 joint venture between British Telecom and Securicor. The other, Racal-Vodafone, is owned 80 per cent by Racal Electronics, 15 per cent by Millicom of the U.S. and 5 per cent by Hamros Technology Trust.

When the Racal group was bidding for its licence in late 1982, it told the government that it expected 500,000 cellular subscribers in Britain by 1990. Many industry experts believe that to be an optimistic figure, and it is not known whether Racal-Vodafone is still sticking to it. The consortium is keeping details of its plans confidential ahead of an announcement planned for today.

TSCR is taking a more conservative, though confident, line. Mr Derek Wordley, its marketing director, forecasts that it will have 12,000-15,000 subscribers in the first year of operation which, he believes, will be more than half of the total. Beyond that, he says, it is hard to make any valid forecasts, though he believes the UK market could be as many as 800,000 mobile users by 1990.

The future of the cellular market will depend on a number of elements, several of which have yet to be firmly settled. The level of prices, which is widely agreed, will be a key

factor and will obviously be determined to a large extent by costs, over which the system operators will have only a degree of control.

One important issue still to be resolved is the charges which the consortia will have to pay to BT or Mercury for the use of fixed landlines to connect their systems. TSCR estimates, however, that landline charges could account for about half the cost of operating its system in peak hours. Though neither consortium has yet published tariffs, TSCR would like to be able to charge about 25p per minute, compared with the 32p rate charged by the existing automatic radio-telephone service. On top of this, there will be a standing charge. That has still to be fixed, but the present minimum charge for BT London automatic radio-telephone service is £800 a year.

Equally important will be the price of the mobile units themselves. It is hoped that higher production volumes will enable prices to be reduced well below the £2,445 charged for a standard automatic radiophone unit today.

### Expensive

Some industry estimates suggest that in-car cellular units will initially cost about £1,500 and that these may fall quite sharply to £1,000. But hand-held units are likely to be considerably more expensive. Motorola, which recently launched a compact unit in the U.S., is selling it for \$4,000. Another uncertainty is the availability of extra radio frequencies as the services develop. The Government has allocated 300 channels to each of the UK consortia. Some industry experts believe that this could be exhausted fairly

quickly in London, and the Government may be urged to release another 400 channels currently set aside for cross-frontier mobile services in Europe.

A further 1,000 channels will become available after 405-line television broadcasts are phased out next year. But there could be technical problems because French television stations are continuing their 405-line services, and these could interfere with cellular communications in southern Britain, where the extra capacity would be most needed.

Much may also depend on the effectiveness with which cellular radio services are marketed. The most obvious immediate market is among particular senior executives of large companies. TSCR believes that cellular usage can be extended steadily down into middle management and beyond to include sales representatives, service engineers and other staff.

But Mr Wordley of TSCR believes that the large company market will be only the tip of the iceberg. In the longer term he expects the biggest growth to come from small companies and professionals such as architects, surveyors and engineers whose jobs require them to be frequently on the move. "It has been suggested that our natural market is among users of telephone answering machines," he says. However, the two consortia have chosen different marketing methods. TSCR plans to sell its service and the mobile units through a separate subsidiary. TSCR on the other hand, will not sell directly to agents, retailers and distributors. It will also subcontract responsibility for billing service users.



The cost of car radio-phones is expected to fall as production volumes rise and more channels are made available

### Relative strengths of major mobile communications manufactures

	NMT	U.S.	Japan	Export	Europe	West Germany
Motorola	●●●	●●●	●	●●●	●●●	●●●
GE	●●	●	●	●●●	●●●	●●●
Philips	●●	●	●	●●	●●●	●●●
Ericsson	●●●	●●	●	●●	●●	●●
K. F. Johnson	●●	●●	●	●●	●●	●●
ITT				●	●●	●●●
Mobira	●●●			●●	●●	●
NEC	●	●	●	●	●	●
OKI		●●	●●			
Siemens	●●	●				●

●●● Strong in cellular  
●● Moderate presence in cellular  
● In cellular market  
| Non-cellular market  
Source: Arthur D. Little

## ...with strong government backing

BRITAIN'S Department of Trade and Industry has enthusiastically backed the development of cellular radio from the start. The Department believes that the planned systems will not only offer a more efficient method of communication to large sections of the business community but will also provide a boost to Britain's electronics industry.

Ministers have made it clear that they expect the growth of cellular radio to lead to substantial investments to add to Britain's resources in electronic technology, to provide an important new market for UK equipment manufacturers; to open up export opportunities; and to create large numbers of new jobs.

Mr John Butcher, junior Industry Minister, told the House of Commons in late 1982 that 10,000 new jobs could be created as a result of the decision to license two competing consortia to operate national cellular radio services from early 1985.

His forecast was based partly on estimates by the Racal consortia. Its buoyant views about the prospects for cellular — conveyed to the Government in a presentation master-minded by the advertising agency Saatchi and Saatchi — were one of the reasons why chosen over four other bidders to operate a national service in competition with British Telecom and Securicor.

Racal has also promised the Government that a high proportion of the network equipment and mobile units needed will be made in the UK. The company, unlike TSCR, plans to manufacture itself, through a separate

subsidiary. Racal told the Government that by the end of last year UK employment in manufacturing equipment just for its system would be 1,000, rising to 2,000 by 1989. By the latter date, according to Racal, the total UK labour force involved in cellular manufacturing could be as high as 6,000.

Racal also forecast that by 1989 it would make a total investment of £200m in cellular radio, which it expects to grow into one of its biggest businesses during the next decade.

So far, Racal-Vodafone and TSCR are estimated to have committed capital investments of about £40m. Initially, however, much of the equipment needed to build their networks is being imported, because no UK manufacturer is yet making the products required. The Racal consortium has signed a contract for exchanges and base stations with Thorn-Ericsson, which is jointly owned by Thorn EMI and Sweden's L. M. Ericsson.

### Agreements

The consortium is also buying several thousand mobile units from Matsushita of Japan and Mobira of Finland. TSCR has ordered £20m equipment from Motorola of the U.S.

However, Racal has sought agreements which will give it the right to transfer technology from abroad and make equipment under licence in the UK. Motorola is spending £10m to expand its mobile radio production in Basingstoke, Hants, and Stormo, a subsidiary of

General Electric of the U.S., is also considering investment in manufacturing in Britain.

Though investment in network infrastructure obviously accounts for most of the initial spending related to cellular radio, in the longer term an increasingly important proportion of the total is likely to be represented by purchases of in-car and hand-held mobile units.

This is a market in which Japanese electronics manufacturers, with their talents for high-volume, low-cost manufacturing, are likely to provide stiff competition. Government hopes for avoiding a flood of imported mobile units may depend on success in encouraging Japanese manufacturers to invest in Britain, as they have already done to make televisions and video recorders.

A key element in the preparations for the start of cellular radio services has been the choice of a standard. Though half-a-dozen different types of system are being promoted by manufacturers, only three were in operation and commercially available when a decision was made last year.

These were the Nordic Mobile Telephone (NMT) system in

use in the four Nordic countries; the Advanced Mobile Phone System (AMPS) developed in the U.S., which had been on trial in Chicago and Washington; and the NTT system developed in Japan.

### Compromise

All involved a degree of compromise. NMT was rejected because it was commercially available only in a version operating at frequency of 450 MHz. This frequency involves some restrictions on capacity and is, in any case, due to be phased out in favour of 900 MHz in a few years' time.

After lengthy discussion, the Government and the two consortia agreed on a UK version of the AMPS system, which could be re-engineered relatively easily to the 900 MHz frequency. The British system is known as the Total Access Communications System (TACS).

This decision caused particular resentment in France, where the authorities had hoped to reach an agreement with the British Government on a common system of European origin. The French have since decided to join forces with

West Germany and have agreed on a system for which equipment will be supplied by manufacturers in both countries.

The main disadvantage of TACS is from the standpoint of the potential for exporting cellular radio equipment from the UK. No other country in the world has so far opted for it, though Ireland is considering it. Furthermore, the channel spacing chosen by Britain is narrower than that used on other systems.

The main hope for exports therefore seems to lie in persuading other countries which have not yet committed themselves to any system to choose TACS. In Western Europe, most countries have already opted for the system, but Greece, Italy and Switzerland have yet to declare their intentions.

Racal also hopes to sell TACS equipment in the Middle East and other parts of the developing world, where it has already set up sales offices. The French have yet to declare their intentions. This decision caused particular resentment in France, where the authorities had hoped to reach an agreement with the British Government on a common system of European origin. The French have since decided to join forces with

## Tough competition for contracts

THE CONCEPT of cellular radio, which allows for a large number of subscribers communicating within densely developed urban areas, always had an obvious attraction for the Japanese, whose cities are characterised by their sprawling nature and narrow thoroughfares.

It was for this reason that Nippon Telephone and Telegraph Corporation (NTT), when it set up its first radio telephone system in 1979, decided to establish a cellular system as a complete alternative to a network using conventional technology. Thus, although in the international sense Japan was late in the field in making provision for mobile radio telephones, it has given itself a lead of sorts by establishing the most extensive cellular radio network currently in operation.

This move has allowed Japanese equipment suppliers to gain sufficient expertise in the technologies involved to become tough competitors for equipment contracts now being opened to bidding from overseas.

At present, equipment is supplied to the telecommunications monopoly NTT by two Japanese companies, Matsushita and NEC, and of the five other manufacturers who have been selected by NTT to start supplies "in the very near future," only one company is foreign: Motorola of Chicago.

NTT's mobile phone service started in December 1979, and by March this year had attracted 27,200 subscribers. Following a public announcement concerning mobile phone equipment procurements, in which NTT invited proposals and documentation from interested manufacturers, ten

companies including Motorola submitted applications, in October 1981. In August, 1982, NTT announced that it had selected five manufacturers' equipment, and since that time has been carrying out tests on these prototype units. An announcement is expected very soon giving details of NTT's proposed new purchases.

A senior NTT spokesman confirmed that UK companies are included among the list of foreign companies that have expressed interest in supplying equipment to the Japanese market. He stressed, however, that so far only Motorola has been able to demonstrate equipment with the specifications

### Japan

ROY GARNER

demanded for the technically sophisticated cellular system being used in Japan.

He added that NTT is still prepared to receive new foreign applications at any time, but doubted that any new companies would be able to catch up with the competition on a cost-effective basis. The Japanese cellular system operates on the 800 MHz wave band, although a 450 MHz band was employed at the research and development stage. The operating zones cover an area 5 to 10 kilometres wide, much smaller than the 40 kms to 50 kms common in the U.S. and Europe, and use a terminal power of 5 watts and a base station power of 25 watts.

By the end of March 1984, 282 stations had been set up across Japan, serving all of the major cities, and future plans call for all areas to be covered by 1989. The network began in Tokyo, where 70 stations are now used to cover the broad metropolitan area which includes major outer suburbs such as Chiba and Saitama prefectures.

About 8,000 new customers installed the equipment last year and the official forecast sees this number rising to more than 10,000 new subscribers in 1984. Service is on a rental basis only, and all aspects of the operation, management and repair and so on are handled by the Japan Mobile Telephone Service, a private company in which NTT is a major stockholder.

The purchase price of equipment is steadily falling, however, and the complete equipment set, which includes phone, radio receiver and transmitter and antenna, is expected to cost

¥300,000 (\$1,320) by next year, down from the initial price of ¥1m, and a current price of about ¥450,000.

Despite the present closed nature of the mobile phone business, manufacturers have high hopes for explosive market growth after the forthcoming privatisation of NTT. It is not yet clear how much competition will be allowed, but there is pressure from many quarters for a comprehensive liberalisation.

Although NEC and Matsushita are the longest-term suppliers to NTT, several other Japanese companies including Fujitsu and Mitsubishi Electric are expected to make a strong showing. Of special interest is OKI Electric, whose subsidiary division, OKI Advanced Communications of Hackensack, NJ, shares supremacy in the U.S. market with Motorola.

The main groups of users of mobile phones in Japan at present are in construction and civil engineering, machinery and electronics, and the finance and insurance fields respectively, although there is also a strong demand from affluent individuals in a variety of sectors.

Future priorities for NTT include a reduction in the rental fees and a wider application of the technology. Many customers are asking for a facsimile and data transmission capability to be added to the radio phone and also, by the end of this year, NTT hopes to start experiments in the use of mobile phones on buses and taxis.

The most coveted aim is the development of an efficient portable unit, and much R and D work is going into this area. The key difficulty lies in the lower power levels associated with battery operation, which would necessitate the use of more of the costly base stations. Japan also has a problem in the shape of its mountainous terrain, and a modified system might be required to cover towns in hilly areas.

Industry analysts predict that once real competition begins in Japan, and prices begin to drop growth could be biggest in the "status" markets, especially among young people. The car market itself is already nearly saturated and car owners have shown increased willingness to invest in high-tech extras to upgrade their machines.

But for all the promise the mobile phone market shows, everything still hinges upon the continuing political debate over liberalisation of Japan's telecommunications services, the future role of NTT and the encouragement of greater foreign participation in these previously closed markets.

## World's fastest-growing system

"WE REALLY had no idea this system would be so popular," said one Scandinavian PTT official. "We planned for only half as many subscribers."

The 24-year-old Nordic Mobile Telephone Network has topped the 100,000 subscriber mark and is the largest and fastest-growing cellular system in the world. Expansion plans have been pushed ahead several times, and the network is growing by nearly 500 customers a week.

Mobile telephony in Scandinavia is gradually moving away from being solely an executive perk into a service which is allowing significant increases in working efficiency in a range of occupations.

While surveys show that about 55 per cent of subscribers are still in business and industry, the number of transport factory and private users is growing as well (now 20 and 25 per cent of the total, respectively).

### Subscription

In Sweden, terminals (or handsets) marketed by about 40 private companies at prices ranging between SKr 15,000 and SKr 20,000. The annual PTT subscription cost is SKr 1,600, and call charges vary from SKr 3.45 a minute during the day to SKr 2.30 at night. A secretarial service, which will forward calls, take messages, send telex and telegrams and book hotel accommodation is also available. The average annual mobile user cost comes to between SKr 4,000 and SKr 5,000, officials say.

In the Nordic area, the leading supplier is the LM Ericsson Telecommunications Group, which was chosen to build the first NMT central switching office. Mr Ake Lundqvist, President of Ericsson Radio System said:

### Scandinavia

DAVID BROWN

"The Nordic market was essential for take-off." The group now has about 243,000 subscriber lines installed or on order in 13 countries including the UK.

While the Nordic market is estimated to expand by about 20 per cent this year, the group has turned its strategic focus on the American market where it hopes to win a third of the annual \$200m private (non-wire line) business this year.

"We are concentrating on selling the infrastructure," says Mr Ake Persson, manager of the ERS Mobile Phone Systems Unit. His group has already won three of the first strategic orders to instal complete cellular systems in Buffalo, Chicago and Detroit.

Other suppliers in the Nordic market include Mobira, the Finnish subsidiary of the Nokia industrial conglomerate with annual sales of Fmk 216m, which has provided base station equipment to the PTT in Finland and which market mobile terminals throughout Scandinavia and Europe.

The two major foreign suppliers of base station equipment are Mitsubishi and Magnetics. The NMT has a technical defect — the 450 MHz system has a limited number of channels. By splitting cells, capacity can be expanded to a practical maximum of about 250,000 subscriber lines by mid-1986. At that time, the NMT will start up operations with a new 900 MHz frequency system in conformity with the agreed European standard, doubling

the number of cellular switches and adding an additional 940 channels to its capacity.

"We should be able to handle demand until the new system is in place," says Mr Bo Magnusson, Chief of the Land Mobile Division of the Televerket, Sweden's PTT. At present, there is no waiting list.

The old 450 MHz system will remain in compatible operation until the changeover, but Televerket will phase out its 11,000 remaining manual mobile subscriptions.

### Prices

The only remaining manual system will then be Comvik's private (and only) competitor to the NMT system which is based in Stockholm and has some 5,000 subscribers.

"Once the 900 MHz market opens up, I think we will start to see a downward pressure on prices," said another PTT official.

The Televerket has other plans for expanding its mobile services. Currently, it operates an advanced nationwide paging system with about 40,000 subscribers. This is the only one of its kind which can transmit the telephone number of a person wishing to contact the owner on to a digital numeric display. Beamed on FM sub carrier channels, the principle has been adopted as a standard by the European Broadcasting Union.

Numeric display pagers are expensive — up to SKr 6,000 per unit. The Televerket now plans to offer a lower-priced "Minical" service transmitting on the 130 MHz frequency with a beeper capability for the general consumer market. Although simpler, it could cost as little as SKr 400 a unit. Numeric display capability could later be added the penetration of push-button telephone sets

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Mobile Communications 5

Cellular link-up in 20 cities

The U.S. PAUL TAYLOR

CELLULAR mobile telephone systems are in commercial operation in four major U.S. urban metropolitan areas. So far, "sign-ups" are exceeding even the most optimistic expectations and cellular set sales—even at \$2,500 a time—are booming.

The fourth system, offered by CTE, started 10 days ago in Indianapolis. By the end of this year almost 20 major U.S. cities will be hooked up to cellular telephone systems, producing a real test of a multi-million dollar market which some analysts believe could reach 1.5m subscribers in the 30 largest U.S. cities alone by the end of the decade.

Conservative estimates put the U.S. market for cellular services at about \$3bn a year by 1990 in addition to equipment sales which could total another \$700m a year by then. Already there are half a dozen companies supplying equipment, including Motorola, Western Electric, GE, Panasonic and Oki.

"I am very positive," says industry expert John Bain of Lehman Brothers, who was one

of the first Wall Street analysts to point out the potential for "cellular." "So far the timetable is running ahead of our projections."

What is certain is that the cellular telephone service has finally arrived in the U.S. And as Forbes, the U.S. business magazine, noted in a recent issue: "It is to the conventional mobile phone what satellite is to cable."

In Detroit, Ford has just announced that its top-range cars will come factory-equipped with cellular equipment as an optional extra. In New York, cellular phones are a sales gimmick for Cadillacs, and across the nation equipment manufacturers are taking full-page advertisements to advertise their wares in this rapidly expanding competitive market.

Differences

The most striking differences between cellular systems and their predecessor, improved mobile telephone service, or IMTs, are availability and quality of service. A cellular phone using the latest technology sounds "just like a desk-top office set" and instead of waiting often up to 20 minutes for a line—if you were lucky enough to be allocated a car phone at all—the new systems offer instant high-quality access—but of course at a price.

The Bell system regional telephone holding companies are in the forefront of the "cellular revolution" as it is being called. In Washington and Chicago, cellular made headway on the market because it was in these two areas that cellular was first tried on a test commercial basis ahead of the Federal Communications Commission (FCC) decision to open up the airwaves to cellular.

In Chicago—the base for one of the trials lasting from 1978 until last year—Ameritech Mobile Communications, a subsidiary of the regional holding company, now offers a system capable of handling 50,000 calls an hour over a 2,500 square mile district.

Ameritech started out with the first commercial cellular service last October with an estimate of 7,000 subscribers within 12 months. The estimate was subsequently raised to 12,000 but with 7,000 subscribers already the company says even the update "now looks conservative."

The company, which also plans to start cellular systems in three more markets, Milwaukee, Detroit and Cincinnati, in the autumn, estimates the average cost of installation at about \$2,500. On top of that, the company charges a \$50 a month flat rate service charge, and a 40 cents a minute peak rate and 25 cents a minute off-peak rate

for calls. The average monthly phone bill, based on 300 minutes of usage, is working out at between \$150 and \$200.

So far, users have fallen into two main categories. First, the chief executive or president of a small company with perhaps 50 employees, aged 35 to 50 with "above average income"; and second, salesmen who have a need to keep in touch with clients and headquarters almost constantly. Ameritech, which is only now beginning to set up a sales organisation to market the service, says it expects major corporate clients to be eventual big users. "We have already had inquiries but mostly they want to try it out first," Ameritech said.

By 1990, Ameritech expects to have 100,000 customers in the Chicago area alone. That estimate may seem high, but analysts point out that less than 0.1 per cent of cars registered in the U.S. have telephones at present while more than 90 per cent of homes have telephones.

Nevertheless, the Chicago experience could be exceptional. The five-year test generated a lot of advance publicity which probably helped boost initial equipment sales and service sign-ons.

Ameritech, like other "wireline"—or local public telephone company carriers—also faces other competition. The FCC is in the process of authorising

one wireless carrier and one independent competitor in each of the major U.S. markets.

So far the FCC has approved 41 wireless operators and another 12 non-wireline licences in the top 90 U.S. markets. Among the major other competitors in the market are companies such as Metromedia, MCI and local entrepreneurial partnerships.

Metromedia has applications in for 53 of the 90 largest markets. Of these Metromedia has an interest in FCC-approved licences in Chicago, Washington, Baltimore and Boston and preliminary FCC decisions in New York, Los Angeles and Philadelphia. MCI has bids in for 51 markets and has already won 0 number including the lucrative licences for southern California.

In Washington DC and Baltimore—another trial area—Atlantic Bell has just begun operation of a commercial service in competition with a service called Cellular One started last December and whose main participants include Metromedia and Motorola. Already competition, which Atlantic Bell describes as "severe" in the Washington area, has produced lower service rates where the Bell company has been forced to charge a lower initial "establishment charge" and lower monthly fixed rates.

Era of compact models begins



The new car telephones offer instant access to the telephone network, though at a price

"TAKE AWAY" computer power is about to become a reality. Although "luggable" computers have been around since Osborne Computer introduced its 25 lb "desk to car transportable" in 1981, the era of lightweight, battery-powered computers that can truly be called portable is just about to begin.

The ranks of companies offering these binder-size computers is expanding rapidly. Already Apple Computer, Hewlett-Packard, Epson, Gavilan and Sharp have introduced portables. IBM, Xerox, Kaypro and Grid Systems are also expected to make announcements this year.

The portables are aimed at several groups of potential customers. First buyers are expected to include professionals who have become so attached to their desk-top personal computers that they hate to leave them behind when travelling on business. Then there are the highly mobile workers—salesmen, auditors and journalists for example—who spend more than half of their time away from an office.

Portables are also expected to find their place in the home computer market, where their small size and ease of use will offer advantages over the clumsier units that tend to be put away and forgotten.

Technology advances have made the portable computers possible. In portables, the traditional video display unit (or television type display) is replaced by a flat screen made of liquid crystal similar to that used in digital watches. Liquid crystal displays can now be made big enough, and clear enough to make 16-line, 80-column displays and 25-line units are expected to be available before year's end.

CMOS low power (complementary metal oxide semiconductor) chips replace standard MOS (metal oxide semi-conductor) "mezzanines" in the new portable computers. And high-density memory chips make it possible to pack a lot of storage

capacity into a small space. Micro-electronics has also reduced the size of a modem—the link between a computer and the telephone line—to a single chip.

110 contains non-volatile memory chips that can be used to store data.

Apple Computer, with its new IIC, has brought the advantages of portability to the home computer market. The IIC is, however, equally suited to business users with the addition of a liquid crystal display (due out this October) and a battery pack.

Sharp Electronics began shipping its FC5000 briefcase size computer last December. Priced at \$1,995 the 5000 uses bubble memory and software cartridges that snap into the top of the machine.

Grid Systems is another bubble memory fan. The company makes what has been called the Bolt-Rover of portable computers, the \$3,000 grid compass. The compass has an electro-luminescent display that is superior to the LCD used in other portables.

Epson launched its entry into the portable computer field at the recent Hannover Fair. The FX-8 "lap computer" has ping-pong software cartridges and an eight-line display. The system is expected to sell for about \$1,200.

Despite all the industry excitement about portable computers, however, their success in the marketplace is as yet unproven. Early versions of portable computers have enjoyed only limited success and it remains to be seen whether the portables can compete with established desktop models among the majority of first-time personal computer buyers.

Portable computers

LOUISE KEOHE

Demand for portable computers is expected to soar. Sales will explode from about 5,000 units valued at \$18m in 1983 to more than 100,000 units worth \$330m this year, according to Future Computing, a Richardson, Texas market research company.

For many users, the portable computer is in effect a portable data communications terminal. It can be plugged into corporate data bases, access public data bases and serve as an electronic mail or telex terminal.

"How much you get out of a computer is a function of its power but also of how frequently and spontaneously you can use it," suggests Richard Baker, marketing manager of Hewlett-Packard's portable computer division. Hewlett-Packard announced an 8 1/2 lb portable computer earlier this month. The \$3,000 Hewlett-Packard 110 features built-in business software and a so-called "solid state disk." Instead of the usual disk drive, the

Negotiations on Franco-German network

France DAVID MARSH

FRENCH AND West German telecommunications companies are in the throes of negotiations with the Paris and Bonn governments over a unique industrial collaboration deal between the two countries—the setting up of a joint Franco-German radio-telephone network for mobile telecommunications.

The idea of a joint network was conceived last year as part of French-led plans to boost general electronics co-operation in Europe. Under an agreement announced last November with due pomp and ceremony by M Louis Mexandeau, the French Minister for Posts and Tele-

communications, companies from the two countries are linking up in a series of unique industrial marriages to reply to one by the French and German joint equipment tenders put administrations earlier this spring.

The plan is to set up initial pilot schemes in the two countries with about 10,000 subscribers each, concentrated in the communities around Paris and Lyon in France, Frankfurt and the Ruhr area in Germany. According to estimates from companies and government officials, which may now be looking a little optimistic, the system could be set up as early as 1986 and enlarged to perhaps as many as 100,000 subscribers by the turn of the decade.

The system is based on the 900 MHz cellular radio technology which vastly expands the capacity of mobile telephone networks by allowing frequen-

cies to be used more efficiently.

Of Alcatel and Thomson, France's two state-owned telecommunications groups, which agreed to merge their telephones interests last September, are certain to play a major part in building up the system, as are Siemens and the German subsidiary of Philips, TDK. These four companies announced last month that they were collaborating to answer the Franco-German tender.

CIT Alcatel agreed with Philips at the end of 1982 joint development of the radio telephone standard called MATSE-2, which the two companies hoped would be the basis of a European-wide network.

CIT Alcatel, which is part of the nationalised CGE electrical and engineering conglomerate, was particularly irritated when the British government in February last year chose a rival U.S.-based cellular radio system

as the basis of the UK's new radiotelephone network scheduled to start next year.

The forging of radio-telephone links between France and Germany may yet put Britain out in the cold compared with the rest of Europe. CIT Alcatel officials hope that the joint Franco-German standard—which looks likely to be based on a hybrid between the MATSE system and the standard developed by Siemens—will gain a foothold in other parts of Europe which have not yet decided the basis of their future radio-telephone links. These countries include Italy as well as Belgium and Switzerland.

Siemens already co-operates with TDK in developing German radio-telephones based on a 450 MHz standard. The co-existence over the next few years of two German radio-telephone systems—450 and 900 MHz, both probably involv-

ing Siemens, has been criticised by some electronics companies as a wasteful dispersal of resources in this sector.

Other companies to be involved in building the system will be picked from the four additional "pairs" which answered the tenders. Negotiations with the two countries' FTIs are expected to continue during the next few months with the parcelling out of contracts—to be awarded on a 50-50 basis to companies from each country—being worked out towards the end of the summer.

The other groups are Matra of France with Germany's Bosch; Secre of the French Jeumont-Schneider group with Ericsson's West German affiliate; Societe Anonyme de Telecommunications (SAT) of France with Standard Elektrik Lorenz (ITL's German subsidiary) and AEG Telefunken; and Motorola subsidiaries

THE WORLD'S NUMBER ONE CELLULAR MOBILE SYSTEMS SUPPLIER HAS TWICE THE EXPERIENCE OF ALL THE OTHER SUPPLIERS COMBINED

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ONLY ERICSSON OFFERS YOU THIS LEVEL OF COMPLETE TURNKEY CAPABILITIES. When we say turnkey, we mean turnkey. From design—including predictions of radio propagation, measurements, cell planning, frequency allocation, and network dimensioning—to detailed preventive maintenance programs.

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We've provided these services on projects large and small. We were and are the major supplier for the world's biggest cellular project, the Nordic Mobile Telephone System. It currently serves 90,000 subscribers. The same turnkey benefits have also proved successful on systems with 2,000 or less subscribers.

We're the only cellular mobile systems supplier that has such proven, worldwide capabilities. When you let Ericsson take responsibility for your system,

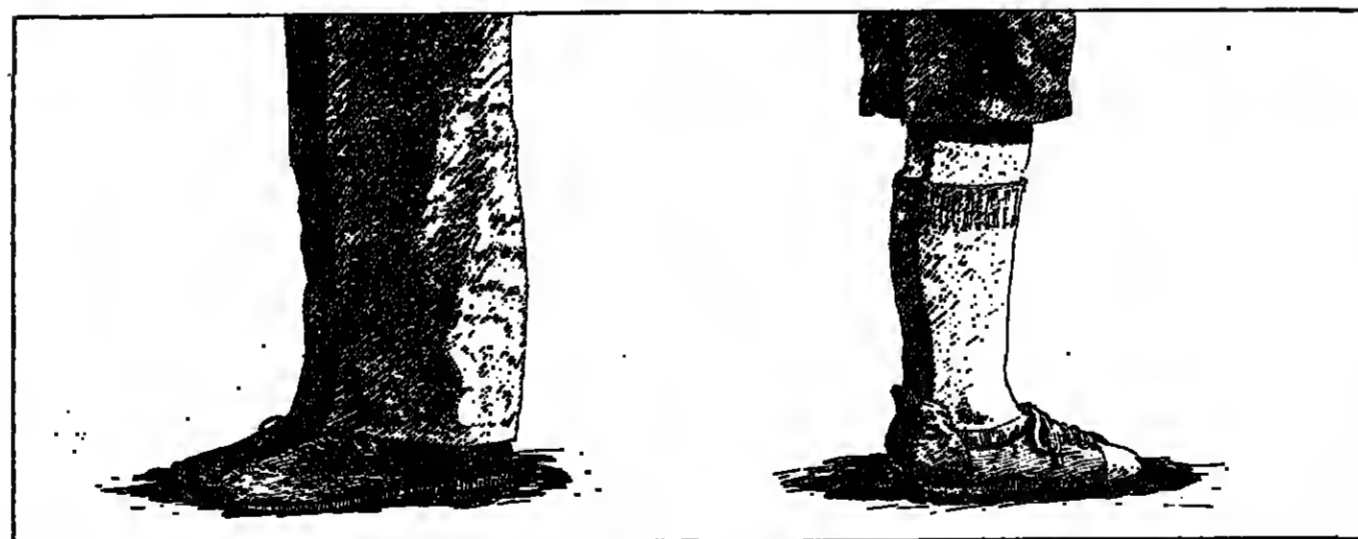


Illustration reflects Ericsson's experience of 98,800 subscriber years vs. the competition's combined total of 47,300 subscriber years (subscribers served by vendor's systems times years in operation). Based on our own estimates, March 1, 1984.

you don't just get a handshake. You get a guarantee. And a system that's ready on time, on budget. What we've learned from these operations pays off for our customers. Because experience has taught us that to be the best supplier of cellular equipment, we have to be the most comprehensive supplier. And we are.

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- 1. Very low total costs. Not only in terms of initial capital investment, but in long-term operating costs.
2. New signaling systems and new subscriber bases can be easily added as separate software functions, without affecting traffic handling.
3. It can incorporate future technical developments, making the system virtually "future-proof."

- 4. It's easy to use and maintain.
5. Extremely high reliability. Completed units are tested in a specially developed pre-installation plant prior to shipment on site, allowing unusually short installation and commissioning timescales. And, like all our cellular equipment, the AXE is self-diagnostic to an exceptionally high degree—right down to the circuit board level.

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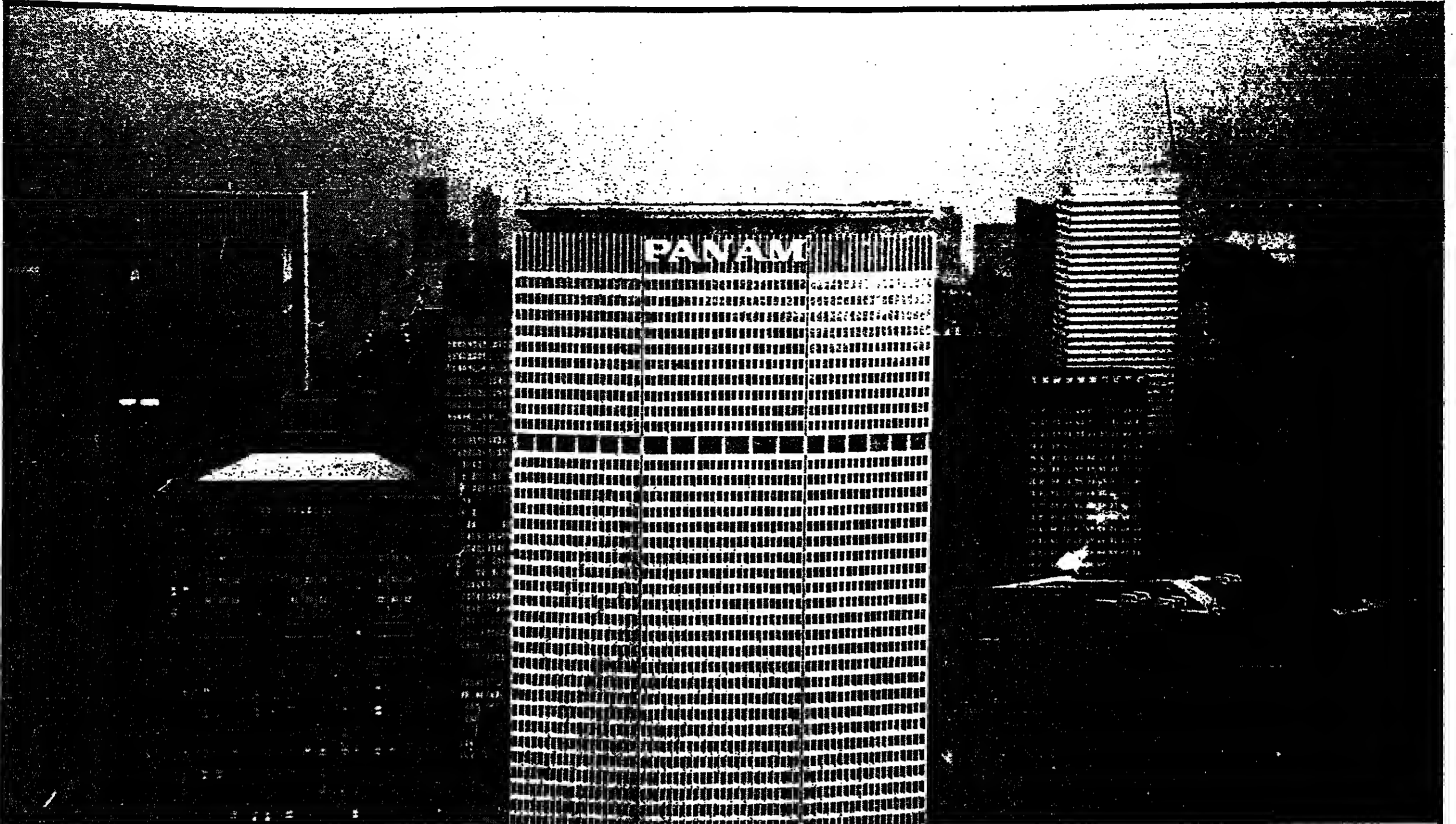
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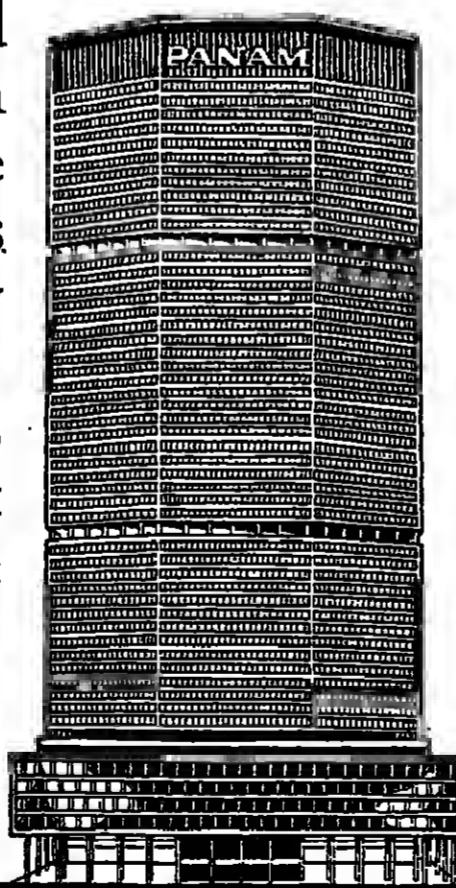
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SECTION III - INTERNATIONAL MARKETS

FINANCIAL TIMES

Tuesday May 15 1984

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WALL STREET

Depressed tone still dominant

DEEPENING uncertainty over interest rates continued to depress Wall Street yesterday, writes Terry Byland in New York.

Further losses were encountered in the bond market as traders struggled to lighten their portfolios in nervous and volatile trading. Stock prices drifted lower with investment interest subdued by the gloom in the fixed-interest sector.

The Dow Jones industrial average closed 6.07 down at 1,154.00. Bond prices tumbled by as much as two full points in the first hour and although there was no repetition of the near-panic of Friday's market, trading conditions were very difficult.

The bond market trading firms must pay today for the \$4.75bn of 30-year U.S. Treasury bonds auctioned on Thursday. The new bond, dated 2005-2014, carries a 13.25 per cent coupon and assumes the role of the market's key long-dated issue.

The refusal of investors to take up the bond, even at the lower prices quickly

struck in the open market, has left market firms with paper losses totalling around \$100m on the new issue since Thursday's auction.

Losses suffered by the leading market-makers, together with the absence of institutional interest, have left the bond market significantly short of liquidity, causing prices to move sharply on thin trading. The nervousness spilled over into the bond futures market, where prices rallied and limits were relaxed as traders sought to cover their losses being suffered in the cash market.

The mood of the fixed-interest market was extremely gloom, with analysts predicting higher interest rates as the rapid

The closing Wall Street report, updated U.S. market monitors and late Canadian prices were unavailable because of continuing industrial action at the Financial Times' printers in Frankfurt.

growth in private sector borrowing clashes with the burgeoning federal deficit.

Salomon Bros estimated that short-term business borrowings have risen by nearly \$37bn since the turn of the year, with the figure topped off by a rise of \$469m last week.

Stock prices fell sharply in the first half-hour although turnover was well below average levels. Attempts to rally during the morning were quickly suppressed by the weakness in bonds, and leading stocks gave further ground.

But the underlying tone remained firm, buoyed by the strength of corporate profits in the first quarter of the year.

Interest rate-reliant stocks were sensitive to the depressed mood of the bond sector. H. F. Ahmanson, the largest savings and loan group, dipped \$2 1/4 to \$19 at one stage despite higher profits. Nervousness over the adverse effects on business travel of an upturn in interest rates drove airline issues lower again.

One major cause for uncertainty was lifted by the announcement that 16 U.S. banks had arranged a \$4.5bn loan package for Continental Illinois, the Chicago-based bank. Shares in Continental Illinois, standing at 13 1/4 ahead of the announcement, later softened to 13 1/4, a net 5 1/4 higher on the day.

IBM recovered an early fall of 5/4 to stand unchanged from Friday's close at \$111 1/4. Ford Motor at \$35 shed 1/4 and General Motors at \$63 1/4 was 3/4 off as investors shied away from the annual wage negotiations.

Other major issues to weaken included General Electric, 5/4 down at \$53 1/4; Inco (International Nickel), 3/4 off at \$12; and Texaco, 5/4 lower at \$39 1/4. But firmer features included Walt Disney, 5 1/4 higher at \$64 1/4, still hoping for a bid move from either Reliance Holdings or Mr Roy Disney. Chicago Milwaukee, the rail stock, put on 5/4 to \$143 1/4.

The announcement of the loan for Continental Illinois reduced pressure on Bank certificates of deposit, and rates fell by 5 to 15 basis points. Treasury bill rates remained firm, with three month rates 3 basis points better at 9.96 per cent, and the six-month a similar amount higher at 10.30 per cent. The federal funds rate slackened to 10 1/2 per cent.

LONDON

Resistance begins to be established

THE DISARRAY in U.S. financial markets continued to weigh on London sentiment yesterday but for the first time in several sessions an attempt was made to resist these influences.

On the first day of a new and extended trading account, most jobbers opened blue chip industrials slightly lower. Values gradually edged better, encouraging more genuine support from private investors.

Particularly strong were BTR, 20p up at 480p, and TI, 6p ahead at 244p as good demand followed their respective optimistic statements at yesterday's annual meetings. The rises in these two helped the FT Industrial Ordinary index to close 3.0 up at 674.0, the first improvement in six sessions.

South African goods opened lower and encountered early sporadic selling. Among the heavyweights, Randfontein fared worse with a decline of £3 1/4 to £97 1/4, while Vaal Reefs at £82 1/4 and Martebest at £54 1/4, gave up around £2 1/4.

Initial gains in government securities disappeared as U.S. values went easier. Losses ranged to 1/4.

Chief price changes, Page 36; Details, Page 37; Share information service, Pages 38-39.

HONG KONG

A RESUMPTION of the Hong Kong slide was partially checked by the close, but still left the Hang Seng index 19.60 lower at 908.72. Dealings were thin, but some support emerged after a 25-point mid-session fall put in jeopardy the 900 barrier.

Of the trading majors, Jardine Matheson was 15 cents off at HK\$58.80 and Swire Pacific down 40 cents at HK\$14.

On the banking side Hongkong and Shanghai shed 10 cents to HK\$6.15 and Hang Seng 75 cents at HK\$34.25. A rare firm spot was Hongkong Telephone, unchanged at HK\$41.

SINGAPORE

A STEADY Singapore result was achieved in dull dealings ahead of a national holiday today, allowing the Straits Times industrial index a 1.83 gain at 981.28 but leaving declines with a marked edge over advances of slightly less than two-to-one.

Banks were on the weak side, showing losses of 10 cents for OCBC at S\$10.10 and 15 cents in DBS at S\$9.40. Both now languish at 1984 lows.

A 2.4m block in Sime Darby changed hands off the floor but it emerged unaltered at S\$24.1.

SOUTH AFRICA

WEAKNESS was predominant in Johannesburg stocks as the rand touched a record low against the dollar and the Reserve Bank moved to intervene.

Despite currency considerations and a firm bullion price, golds fared poorly. Randfontein shed R3.50 to R179 and Zandpan 50 cents to R16, while the mining financials had Amgold off R3 at R143.

CANADA

STEEP declines were encountered across the board in Toronto, with the largest losses to be found among the property, energy and mining sectors. Golds and base metals appeared equally affected.

Losses were more muted in Montreal, but covered the full range of industrial and banking issues.

EUROPE

Carmakers in the driving seat

MOTOR manufacturers found their prospects, for good or ill, firmly in the driving seat of many European bourses yesterday.

The perceived threat to West German industry - and in the immediate future to its motor industry - as a result of strikes by 13,000 metalworkers in the Stuttgart area, was underlined by a virtual absence of buying interest among investors in Frankfurt.

Concern about carryover effects was also cited for mixed to lower performance in Switzerland and the Netherlands, while in France the tone was soured by the spread of industrial action at Citroën.

In contrast, Italy was led higher by Fiat, which announced improved results and a major capital raising operation.

Coupled with concern about the level of U.S. interest rates, the West German strike by members of the IG Metall union left the Commerzbank index down 12.3 at 1,003.4.

Motor and engineering shares took the brunt of the downturn. Daimler-Benz, which has sites in the immediately affected region, fell DM 8.50 to DM 565.50 while Volkswagen was DM 4.50 lower at DM 189.10.

BMW, which became the first manufacturer to threaten shutdowns at four of its plants from Thursday if the strike continues, fell DM 2 to DM 382.

MAN, the manufacturer of heavy trucks, shed DM 4.20 to DM 148. Among engineering issues, Linde fell DM 8.80 to DM 375.20 and KHD DM 5 to DM 239.

Concern that higher U.S. interest rates could oblige the Bundesbank to follow suit at its meeting on Thursday left Deutsche Bank down DM 5.50 to DM 370 ex-dividend and Dresdner DM 2.90 lower at DM 166.50.

In electricals, Siemens shed DM 4.50 to DM 387.90 while battery maker Varta proved one of few exceptions, adding DM 5.50 to DM 172.20 after announcing a higher 1983 dividend.

Bond prices were again lower, in line with the U.S. trend, and the Bundesbank made DM 28.3m of purchases, following Friday's buying totalling DM 52.6m.

After a sharply lower opening, Paris continued to ease, with many investors holding back on expectations of several major capital increases soon.

Renewed tension in the motor industry also depressed prices. Peugeot fell Ffr 9 to Ffr 240.20 as the strike which began last Friday at the Citroën assembly plant outside Paris spread to two other Citroën factories.

In foods, Moët Hennessey shed Ffr 34 to Ffr 1,805 despite lower parent company net profits for 1983, while Matra, the state-controlled electronics and arms group, fell Ffr 49 to Ffr 1,402 as it reported higher net consolidated income last year but a sharp drop in non-consolidated net income.

A firmer Milan was spurred by a L26 rise to L4,200 for Fiat during official trading, ahead of the announcement of its improved 1983 results and major capital increase, including the largest rights issue ever made on the market.

Later, in over-the-counter dealings, the shares moved up to L4,285, although analysts said today's full trading session would be the first true indication of investor sentiment.

In a generally lower Brussels, wire-maker Bekaert fell Bfr 25 to Bfr 4,350 as the president's annual report forecast a continued profits recovery this year.

Profit-taking in shares that gained strongly last week left Zurich broadly lower although selective demand for banks gave some support to the market.

Amsterdam was mixed in quiet trading although in a slightly firmer international sector, Unilever added 50 cents to Ft 262.50, with its first quarter earnings in line with market expectations.

Stockholm was also lower after a quiet start to the week.

TOKYO

Slide as sellers have field day

RIISING U.S. interest rates and a weaker yen led to a wave of small-lot selling almost across the board in Tokyo yesterday. Led by blue-chip issues, share prices fell continuously from the outset in the absence of buying support, with the Nikkei-Dow market average posting the second largest one-day loss on record, writes Shigeo Nishizaki of Jiji Press.

The index plunged 270.53, or 2 1/2 per cent, to close at 10,563.34. The high stock prices of recent years mean, however, that the percentage decrease is much smaller. The tenth largest fall, for instance, amounted to 5.02 per cent in November 1967.

Declines far outnumbered advances yesterday, by 657 to 86, with 113 issues unchanged. Turnover slowed further to 235.33m shares from last Friday's 314.91m.

Buying interest was dampened early, prompting small sales across a broad front. Investors, recently unsettled by climbing prices, were further daunted by Wall Street's severe setback on Friday in response to rising interest rates, and by the yen's slide to the Y31 level yesterday on the Tokyo foreign exchange market.

Blue chips in the light electrical, vehicle and precision instrument sectors lost ground widely. Hitachi shed Y35 to Y890, Matsubita Electric Industrial Y70 to Y1,800, NEC Y60 to Y1,210, Toyota Motor Y70 to Y1,330 and Canon Y40 to Y1,250.

Among top-priced issues, Fanuc and Kyocera came under heavy selling pressure, plummeting Y610 and Y450 respectively, to Y8,100 and Y5,250.

Opportunity buying of some chemical and steel issues toward the close failed to buoy the Dow index but Mitsubishi Chemical, volume leader on 8.17m shares, managed a Y3 gain at Y332.

The market's immediate prospects hinge on new upward movement by U.S. interest rates. Brokers and investors were keen to monitor Wall Street's performance later in the day. The bond market weakened further in thin trading in reaction to Friday's plunge in U.S. bond values. Both buyers and sellers were forced to the sidelines, raising the yield on the benchmark 7.5 per cent long-term government bond due January 1993 to 7.345 per cent from Friday's 7.31 per cent.

KEY MARKET MONITORS. Standard & Poores 500 (Composite) chart. STOCK MARKET INDICES table with columns for New York, London, Tokyo, Australia, Austria, Belgium, Canada, Denmark, France, West Germany, Hong Kong, Italy, Netherlands, Norway, Singapore, South Africa, Spain, Sweden, Switzerland, World. CURRENCIES table with columns for U.S. Dollar, Sterling, Euro-currencies. INTEREST RATES table with columns for Euro-currencies, FT London Interbank fixing, U.S. Fed Funds, U.S. 3-month CDs, U.S. 3-month T-bills, U.S. BONDS table with columns for Treasury, Corporate, Xerox. FINANCIAL FUTURES table with columns for Chicago U.S. Treasury Bonds, U.S. Treasury Bills, Certificates of Deposit, London Three-month Eurodollar, 20-year Notional Gilt, £50,000 32nds of 100%. COMMODITIES table with columns for Silver, Copper, Coffee, Oil.

ONLY THE PUREST GOLD HAS IMMORTAL VALUE THROUGHOUT THE WORLD. Image of a sphinx. Text: Over 3000 years ago, the ancient Egyptians immortalized their King Tutankhamen in the purest of gold. Even then they knew that pure gold would have everlasting value. And that is still true today. Whoever invests in gold should also choose its purest form, Canada's Maple Leaf, for example, is struck with the purest gold that you can buy today. It contains no base metals and is the only coin available at banks with a purity of 999.9/1000 fine gold - guaranteed by the Canadian government. What does that mean for you? In contrast to ordinary gold coins which are 22-carat gold, you get the purity of 24-carat gold for your money with Maple Leaf. And, the additional security that you can trade it easily anytime, anywhere in the world. Therefore, prudent investors can follow the example of the ancient Egyptians. Whoever wants to acquire longterm value should choose gold of the highest purity. And today, that is the 999.9/1000 of the Canadian Maple Leaf - a purity for which there is no substitute. Canadas Maple Leaf logo and Royal Canadian Mint logo.



AMERICAN STOCK EXCHANGE COMPOSITE CLOSING PRICES

هكذا عندنا

Main table of American stock exchange closing prices, organized in columns by stock symbol and price details.

Continued on Page 36

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

Main table of New York stock exchange closing prices, organized in columns by stock symbol and price details.

STAYING IN LYON? Complimentary copies of the Financial Times are now available at the Hotel Sofitel Lyon and Grand Hotel Concorde

Notes on dividends and stock splits, including details on annual rates and distribution dates.

WORLD STOCK MARKETS

AUSTRIA table with columns: Stock, Price, Change, High, Low, Last, Day

GERMANY table with columns: Stock, Price, Change, High, Low, Last, Day

NORWAY table with columns: Stock, Price, Change, High, Low, Last, Day

AUSTRALIA (continued) table with columns: Stock, Price, Change, High, Low, Last, Day

JAPAN (continued) table with columns: Stock, Price, Change, High, Low, Last, Day

OVER-THE-COUNTER Nasdaq national market, 2.30pm prices

Large table of over-the-counter stock prices with columns: Stock, Price, Change, High, Low, Last, Day

LONDON

Table of London stock prices and chief price changes with columns: Stock, Price, Change, High, Low, Last, Day

BELGIUM/LUXEMBOURG table with columns: Stock, Price, Change, High, Low, Last, Day

SPAIN table with columns: Stock, Price, Change, High, Low, Last, Day

SWEDEN table with columns: Stock, Price, Change, High, Low, Last, Day

HONG KONG table with columns: Stock, Price, Change, High, Low, Last, Day

JAPAN (continued) table with columns: Stock, Price, Change, High, Low, Last, Day

DENMARK table with columns: Stock, Price, Change, High, Low, Last, Day

ITALY table with columns: Stock, Price, Change, High, Low, Last, Day

NETHERLANDS table with columns: Stock, Price, Change, High, Low, Last, Day

SWITZERLAND table with columns: Stock, Price, Change, High, Low, Last, Day

JAPAN table with columns: Stock, Price, Change, High, Low, Last, Day

SINGAPORE

SINGAPORE table with columns: Stock, Price, Change, High, Low, Last, Day

CHIEF PRICE CHANGES

Table of chief price changes with columns: Stock, Price, Change, High, Low, Last, Day

FRANCE table with columns: Stock, Price, Change, High, Low, Last, Day

NETHERLANDS table with columns: Stock, Price, Change, High, Low, Last, Day

SWITZERLAND table with columns: Stock, Price, Change, High, Low, Last, Day

JAPAN table with columns: Stock, Price, Change, High, Low, Last, Day

JAPAN table with columns: Stock, Price, Change, High, Low, Last, Day

SOUTH AFRICA

SOUTH AFRICA table with columns: Stock, Price, Change, High, Low, Last, Day

CHIEF PRICE CHANGES

Table of chief price changes with columns: Stock, Price, Change, High, Low, Last, Day

NOTES

Text explaining the notation used in the stock price tables.

CANADA

CANADA TORONTO table with columns: Stock, Price, Change, High, Low, Last, Day

CANADA table with columns: Stock, Price, Change, High, Low, Last, Day

CANADA table with columns: Stock, Price, Change, High, Low, Last, Day

CANADA table with columns: Stock, Price, Change, High, Low, Last, Day

CANADA table with columns: Stock, Price, Change, High, Low, Last, Day

MONTREAL

MONTREAL table with columns: Stock, Price, Change, High, Low, Last, Day

AMERICAN STOCK EXCHANGE CLOSING PRICES

Large table of American stock exchange closing prices with columns: Stock, Price, Change, High, Low, Last, Day

WORLD ECONOMIC INDICATORS every Monday in the Financial Times

LONDON STOCK EXCHANGE

MARKET REPORT

RECENT ISSUES

Equity leaders manage technical rally but gilts lose early gains to close lower

EQUITIES

Table of equity market data including stock prices, changes, and volume for various companies like Anglo Siam, BHP, and others.

FIXED INTEREST STOCKS

Table of fixed interest stock data including bond yields and prices for various government and corporate securities.

"RIGHTS" OFFERS

Table of rights offers for various companies, detailing the terms of the offers and the companies involved.

spurious selling from domestic sources, although dealers again reported exceptionally thin trading conditions.

Among the heavyweights, BHP's share price rose 1.5p to 215.5p, while Anglo Siam's fell 1.5p to 105.5p.

NEW HIGHS AND LOWS FOR 1984

Table listing new high and low prices for various stocks in 1984, including company names and their respective prices.

6 to 6 1/2 for a similar reason. Dealings in London and Liverpool were suspended at 7p, down 3; it was announced late yesterday that the company had requested the appointment of a receiver.

Leading Properties met with support at the outset and usually retained small gains. Land Securities edged up a couple of pence to 275p.

EUROPEAN OPTIONS EXCHANGE

Table of European options exchange data, showing call and put option prices for various European stocks.

FINANCIAL TIMES STOCK INDICES

Table of financial times stock indices, including the FTSE 100, FTSE 250, and other market indices.

HIGHS AND LOWS S.E. ACTIVITY

Table showing high and low prices and S.E. activity for various stocks, including company names and their price ranges.

FT-ACTUARIES SHARE INDICES

Table of FT-actuaries share indices, detailing the performance of various actuarial share indices.

Account Dealing Dates: First Declared Last Account Dealing Date Dealings Day Apr 30 May 11 May 21 May 31 June 11 June 21 June 31 July 11 July 21 July 31

The disarray in U.S. financial markets continued to weigh on London sentiment yesterday. However, for the first time in several sessions markets made an attempt to resist the influences which have adversely affected all international sources recently.

Government Securities: 78.65, 78.78, 80.15, 80.46, 80.54, 81.02, 80.61. Fixed Interest: 84.80, 85.00, 85.95, 85.80, 85.58, 85.86, 85.27.

Jessel Toyne bid: A further contracting Discount House sector was featured by Jessel Toyne which rose 4 1/2 to 100p in response to the spread share purchase terms from Mercantile House.

Full year. Late offerings left ML Holdings 8 lower at 247p, but occasional demand ahead of Thursday's half-year results prompted a rise of 2 to 65p in RIF.

FRIDAY'S ACTIVE STOCKS

Table of Friday's active stocks, listing the names of companies and their share prices.

ACTIVE STOCKS

Table of active stocks, listing the names of companies and their share prices.

OPTIONAL

Table of optional stocks, listing the names of companies and their share prices.

PUTS

Table of puts stocks, listing the names of companies and their share prices.

CALLS

Table of calls stocks, listing the names of companies and their share prices.

PUTS

Table of puts stocks, listing the names of companies and their share prices.

FIXED INTEREST

Table of fixed interest rates, including yields for various government and corporate bonds.

FIXED INTEREST

Table of fixed interest rates, including yields for various government and corporate bonds.

\*Flux yield. Highs and lows record, base data, values and constituent changes are published in Saturday Issues. A list of constituents is available from the Publishers, the Financial Times, Bankers House, Cannon Street, London, EC4A 3DF, price 15p, per 20p.

Table of hotel and catering stocks with columns for stock name, price, and volume.

INDUSTRIALS (Misc.)

Large table of industrial stocks including companies like ICI, BP, and various engineering firms.

FT LONDON SHARE INFORMATION SERVICE

AMERICANS

Table of American stocks such as Alcoa, Ford, and General Electric.

BEERS, WINES—Cont.

Table of beer and wine stocks including Heineken and Carlsberg.

DRAPERY & STORES—Cont.

Table of drapery and store stocks like Debenhams and Next.

ENGINEERING—Continued

Table of engineering stocks including BHP and various industrial groups.

BRITISH FUNDS

Table of British investment funds like Short's and Five to Fifteen Years.

BUILDING INDUSTRY, TIMBER AND ROADS

Table of building, timber, and road stocks such as JCB and Bovis Lend Lease.

ELECTRICALS

Table of electrical stocks including BSC and various electrical engineering firms.

CANADIANS

Table of Canadian stocks like Alcan and Inco.

BANKS, HP & LEASING

Table of bank, home products, and leasing stocks.

CHEMICALS, PLASTICS

Table of chemical and plastic stocks including ICI and Borealis.

FOOD, GROCERIES, ETC

Table of food and grocery stocks like Asda and Sainsbury.

INT. BANK AND O'SEAS GOVT. STERLING ISSUES

Table of international bank and overseas government issues.

CORPORATION LOANS

Table of corporate loan offerings.

COMMONWEALTH AND AFRICAN LOANS

Table of commonwealth and African loan offerings.

DRAPERY AND STORES

Table of drapery and store stocks.

BEERS, WINES & SPIRITS

Table of beer, wine, and spirit stocks.

ENGINEERING

Table of engineering stocks.

HOTELS AND CATERERS

Table of hotel and catering stocks.

FOREIGN BONDS & RAILS

Table of foreign bonds and rail stocks.

WOLSELEY HUGHES logo and text: From Falkirk to Florida we're growing from strength to strength.

BRITISH FUNDS advertisement for Short's and Five to Fifteen Years funds.

Over Fifteen Years advertisement for investment funds.

Index-Linked advertisement for index-linked investment funds.

CORPORATION LOANS advertisement for corporate loan offerings.

COMMONWEALTH AND AFRICAN LOANS advertisement for international loan offerings.

FOREIGN BONDS & RAILS advertisement for foreign investment opportunities.

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Financial Times Tuesday May 15 1964

INDUSTRIALS—Continued

Table of industrial stocks including MCD Corp, NYP, and others with columns for stock, price, and volume.

LEISURE—Continued

Table of leisure stocks including Leisure World, Leisure World, and others.

PROPERTY—Continued

Table of property stocks including British Land, British Land, and others.

INVESTMENT TRUSTS—Cont.

Table of investment trusts including British Land, British Land, and others.

OIL AND GAS—Continued

Table of oil and gas stocks including Shell, Shell, and others.

MOTORS, AIRCRAFT TRADES

Motors and Cycles

Commercial Vehicles

Components

Garages and Distributors

NEWSPAPERS, PUBLISHERS

PAPER, PRINTING

ADVERTISING

INSURANCES

LEISURE

SHIPPING

SOOTH AFRICANS

TEXTILES

TOBACCO

TRUSTS, FINANCE, LAND

Investment Trusts

Finance, Land, etc

TOBACCO

TRUSTS, FINANCE, LAND

Investment Trusts

Finance, Land, etc

OVERSEAS TRADERS

PLANTATIONS

Rubbers, Palm Oil

Teas

Central Rand

Eastern Rand

Far West Rand

O.F.S.

Finance

Diamond and Platinum

Central African

MINES—Continued

Australians

Tins

Miscellaneous

NOTES

REGIONAL & IRISH STOCKS

Options—3-month call rates

Recent Issues and "Rights" Page 39

INDUSTRIALS—Continued

Table of industrial stocks including MCD Corp, NYP, and others.

LEISURE—Continued

Table of leisure stocks including Leisure World, Leisure World, and others.

PROPERTY—Continued

Table of property stocks including British Land, British Land, and others.

INVESTMENT TRUSTS—Cont.

Table of investment trusts including British Land, British Land, and others.

OIL AND GAS—Continued

Table of oil and gas stocks including Shell, Shell, and others.

MOTORS, AIRCRAFT TRADES

Motors and Cycles

Commercial Vehicles

Components

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Diamond and Platinum

Central African

MINES—Continued

Australians

Tins

Miscellaneous

NOTES

REGIONAL & IRISH STOCKS

Options—3-month call rates

Recent Issues and "Rights" Page 39

AUTHORISED UNIT TRUSTS

Table listing various unit trusts such as Abbey Unit Trust, Abbey Growth Fund, Abbey Income Fund, etc., with their respective managers and details.

Table listing various unit trusts including Abbey Unit Trust, Abbey Growth Fund, Abbey Income Fund, etc., with their respective managers and details.

Table listing various unit trusts including Abbey Unit Trust, Abbey Growth Fund, Abbey Income Fund, etc., with their respective managers and details.

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Table listing various unit trusts including Abbey Unit Trust, Abbey Growth Fund, Abbey Income Fund, etc., with their respective managers and details.

FT UNIT TRUST INFORMATION SERVICE

Main table for FT Unit Trust Information Service, listing numerous unit trusts with columns for name, manager, and other details.

Table titled 'Insurances - continued' listing various insurance companies and their details.

Table titled 'Commercial Union Group' listing various commercial union groups and their details.

Table titled 'Friends' Provident Life Office' listing various insurance products and their details.

Table titled 'Pensions' listing various pension schemes and their details.

Table titled 'Pensions' listing various pension schemes and their details.

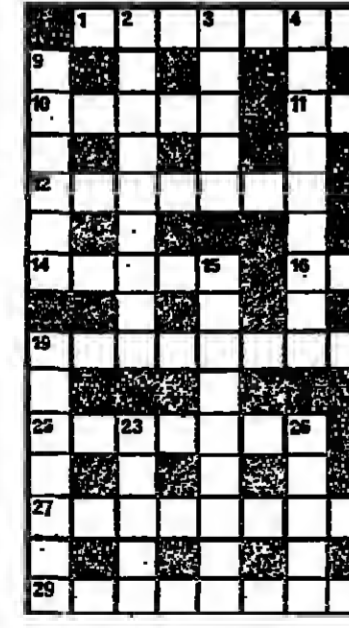
Table titled 'Pensions' listing various pension schemes and their details.

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F.T. CROSSWORD PUZZLE No. 5,416

- ACROSS
1 Get a better image to draw to one's attention (5, 4, 5)
10 Sort of tape for second-class attack (5)
11 Spin and sail (when out) are abroad (5)
12 Disturbed term in river is the end! (7)
13 Stock feed like a small company prepared... (3, 4)
14 ... can be a mockery to eat quickly (5)
15 Events covered by running commentary? (9)
16 Dress tree that's variegated? Rats! (9)
17 Great bigwig (5)
18 Face round foot could describe a clock (7)
19 It changes state and could 1 across (9)
20 Part of house once seen on screen (5)
21 Relatively feminine people (7)
22 Leader of government in row—a forceful person (5)
23 Ring letter for crime in theatrical performance (4, 1, 3, 6)
24 Star—his lady who's superior (5)
25 This is variable with nothing on mass, an indicator of variables (9)
26 It isn't even unfair without it (9)
27 Tailless bird in act worked out (7)
28 Sort of gentry brought down (6)
29 Port for a cake? (5)
30 A class of cowboys will use it (5)



Solution to Puzzle No. 5,415

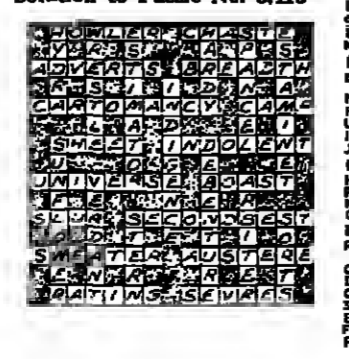


Table listing various insurance companies and their details.

Table listing various insurance companies and their details.

Table listing various insurance companies and their details.

Table listing various insurance companies and their details.

Table listing various insurance companies and their details.

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INSURANCE & OVERSEAS MANAGED FUNDS

Table of insurance and managed funds, including sections for British Life Assurance Co. Ltd., Canadian Life Assurance Co. Ltd., and various international funds.

Table of insurance and managed funds, including sections for Overseas Life Assurance Co. Ltd., Overseas Life Assurance Co. Ltd., and various international funds.

Table of insurance and managed funds, including sections for Overseas Life Assurance Co. Ltd., Overseas Life Assurance Co. Ltd., and various international funds.

Table of insurance and managed funds, including sections for Overseas Life Assurance Co. Ltd., Overseas Life Assurance Co. Ltd., and various international funds.

OFFSHORE AND OVERSEAS

Table of offshore and overseas managed funds, including sections for Overseas Life Assurance Co. Ltd., Overseas Life Assurance Co. Ltd., and various international funds.

Table of offshore and overseas managed funds, including sections for Overseas Life Assurance Co. Ltd., Overseas Life Assurance Co. Ltd., and various international funds.

NOTES: Information regarding fund performance, currency fluctuations, and other relevant details.

COMMODITIES AND AGRICULTURE

Nymex to apply for options on crude oil

By Nancy Dunne in Washington THE New York Mercantile Exchange (Nymex) has announced that it will submit an application to the Commodity Futures Trading Commission (CFTC) to trade options on crude oil.

Aluminium drops to 12-month low

ALUMINIUM values fell to the lowest level for more than a year on the London Metal Exchange yesterday. The cash price for aluminium dropped by \$18 to \$888 a tonne, in spite of stocks in the LME warehouses tumbling by 10,875 to 155,650 tonnes—the seventh consecutive weekly decline reducing total holdings to the lowest level since the beginning of 1982.

Stronger metal prices predicted—before next recession

GENERALLY higher prices for metals, as the recovery in the American economy continues, are forecast in the latest edition of Metal and Economic Trends, issued by Amalgamated Metal Trading.

Higher world demand for silver likely

WORLD DEMAND for silver should increase faster than supply in 1984, according to a forecast prepared by Credit Suisse. However, the Zurich bank says that mined production is likely to set a record this year.

ninth successive weekly decline and means that LME copper stocks have fallen by over 193,000 tonnes since the five-year peak of nearly 434,000 tonnes reached in January. Yet the higher grade cash price for copper yesterday closed \$4.5 down at \$1,010.5 a tonne.

Stronger metal prices predicted—before next recession

Copper prices are forecast to average 70 cents a lb, reaching 80 cents by the year-end and averaging 77 cents in 1985. Lead is predicted to reach 28 cents by the end of the year, averaging 24 cents in 1984 and 27 cents in 1985.

Cocoa values fall back sharply

By Our Commodities Staff COCOA prices on the London futures market fell back sharply yesterday with the July position ending \$5.50 below Friday's close at \$1,938 a tonne. Earlier in the day the price had been pushed to a 31-month peak of \$2,006 a tonne, encouraged by the publication of an International Cocoa Organisation forecast that the 1983/84 world production deficit would reach 112,000 tonnes.

Community steps up Iberian tariffs

SPANISH and Portuguese exporters of fruit and vegetables are calling for the EEC tariff rates to be reduced by 3 and 20 per cent from June 1 following new Community moves to protect Mediterranean farmers.

More EEC beef for export

EEC beef and veal exports are likely to rise to 700,000 tonnes this year, the Meat and Livestock Commission says in its latest market report.

PRICE CHANGES

Table with columns for commodity name, price on May 14, and price on May 15. Includes items like Metals, Cash, Tin, and Wheat.

BRITISH COMMODITY PRICES

Table with columns for commodity name, price on May 14, and price on May 15. Includes items like BASE-METALS, COPPER, SILVER, and GOLD.

AMERICAN MARKETS

Table with columns for commodity name, price on May 14, and price on May 15. Includes items like ALUMINIUM, COFFEE, and GOLD.

NEW YORK

Table with columns for commodity name, price on May 14, and price on May 15. Includes items like ALUMINIUM, COFFEE, and GOLD.

CHICAGO

Table with columns for commodity name, price on May 14, and price on May 15. Includes items like LIVE CATTLE and LIVE HOGS.

LONDON OIL

Table with columns for oil type, price on May 14, and price on May 15. Includes items like Brent, WTI, and various grades.

GAS OIL FUTURES

Table with columns for month, price on May 14, and price on May 15. Includes items like May, June, and July contracts.

INDICES

Table with columns for index name, price on May 14, and price on May 15. Includes items like FTSE 100 and various commodity indices.

REUTERS

Table with columns for commodity name, price on May 14, and price on May 15. Includes items like SOYABEAN MEAL and DOW JONES.

MOODY'S

Table with columns for commodity name, price on May 14, and price on May 15. Includes items like SOYABEAN MEAL and DOW JONES.

MEAT/FISH

Table with columns for commodity name, price on May 14, and price on May 15. Includes items like BEEF and PORK.

GOLD MARKETS

Table with columns for gold price, price on May 14, and price on May 15. Includes items like Gold Bullion and Gold Bars.

LONDON FUTURES

Table with columns for commodity name, price on May 14, and price on May 15. Includes items like Wheat, Corn, and Soybeans.

COFFEE

Table with columns for coffee type, price on May 14, and price on May 15. Includes items like Arabica and Robusta.

SUGAR

Table with columns for sugar type, price on May 14, and price on May 15. Includes items like White Sugar and Brown Sugar.

SOYABEAN MEAL

Table with columns for soyabean meal type, price on May 14, and price on May 15. Includes items like 48% and 50% protein.

WHEAT

Table with columns for wheat type, price on May 14, and price on May 15. Includes items like Hard Wheat and Soft Wheat.

EUROPEAN MARKETS

Table with columns for commodity name, price on May 14, and price on May 15. Includes items like Wheat, Corn, and Soybeans.

ALUMINIUM

Table with columns for aluminium type, price on May 14, and price on May 15. Includes items like Primary Aluminium and Recycled Aluminium.

GRAINS

Table with columns for grain type, price on May 14, and price on May 15. Includes items like Wheat, Corn, and Soybeans.

WHEAT

Table with columns for wheat type, price on May 14, and price on May 15. Includes items like Hard Wheat and Soft Wheat.

BARLEY

Table with columns for barley type, price on May 14, and price on May 15. Includes items like Malt Barley and Feed Barley.

NICKEL

Table with columns for nickel type, price on May 14, and price on May 15. Includes items like Primary Nickel and Recycled Nickel.

EUROPEAN MARKETS

Table with columns for commodity name, price on May 14, and price on May 15. Includes items like Wheat, Corn, and Soybeans.

ALUMINIUM

Table with columns for aluminium type, price on May 14, and price on May 15. Includes items like Primary Aluminium and Recycled Aluminium.

GRAINS

Table with columns for grain type, price on May 14, and price on May 15. Includes items like Wheat, Corn, and Soybeans.

WHEAT

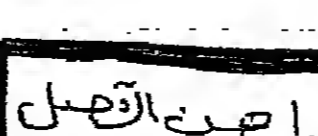
Table with columns for wheat type, price on May 14, and price on May 15. Includes items like Hard Wheat and Soft Wheat.

BARLEY

Table with columns for barley type, price on May 14, and price on May 15. Includes items like Malt Barley and Feed Barley.

NICKEL

Table with columns for nickel type, price on May 14, and price on May 15. Includes items like Primary Nickel and Recycled Nickel.



CURRENCIES, MONEY AND CAPITAL MARKETS

FOREIGN EXCHANGES

Bank rumours hit dollar

The dollar was volatile on the foreign exchanges, discouraging market operators from taking out large positions because of the general mood of uncertainty and keeping trading rather thin.

but improved to 231.25 from 230.25 against the yen so fears about world oil supplies as a result of the war between Iran and Iraq, and suggestions that long yen/D-mark positions will be quickly unwound if the German currency recovers against the dollar.

DEUTSCHE MARK - Trading range against the dollar in 1984 is 2.6425 to 2.5825. April average 2.6435. Trade-weighted index 124.8 against 123.6 six months ago.

FINANCIAL FUTURES

Eurodollars fall

The London International Financial Futures Exchange continued to take its toll from the U.S. markets. The U.S. bond market was weak on Friday, but there was something of a recovery on bear covering, and the last trade on Friday was not too far from the previous day's.

of movement in the cash market, and reflecting growing optimism that London clearing bank base rates may avoid another increase. It touched a high point of 104.06 as sterling improved against the dollar on the foreign exchanges, but then fell to 103.25 on the depressed opening of the U.S. bond market.

YOUR COMPANY IMAGE. Promotional Gifts. Key Rings, Cuff Links, Paperweights, Enamel Badges. Mantham-Windsor.

EMS EUROPEAN CURRENCY UNIT RATES

Table with columns: ECU, Currency, % change, % change, Divergence. Rows include Belgium, France, Germany, Italy, Netherlands, Luxembourg, Greece, Ireland, Portugal, Spain, UK.

THE DOLLAR SPOT AND FORWARD

Table with columns: Day's, Close, One month, % Three months, % Six months. Rows include US, Canada, Mexico, Denmark, Ireland, W. Germany, Italy, Norway, France, Sweden, Japan, Australia, Switzerland.

THE POUND SPOT AND FORWARD

Table with columns: Day's, Close, One month, % Three months, % Six months. Rows include US, Canada, Mexico, Denmark, Ireland, W. Germany, Italy, Norway, France, Sweden, Japan, Australia, Switzerland.

OTHER CURRENCIES

Table with columns: May 14, \$, £, S. Rows include Argentina, Australia, Brazil, Canada, Chile, Colombia, Hong Kong, India, Israel, Kuwait, Luxembourg, Malaysia, New Zealand, Saudi Arabia, Singapore, South Africa, U.A.E., Yugoslavia.

FINANCIAL FUTURES

TAKE OUR CURRENT BRIEF, FREE. GNI are leading members on LIFFE, offering a combination of expertise in both the cash and the futures markets.

THE POUND SPOT AND FORWARD

Table with columns: Day's, Close, One month, % Three months, % Six months. Rows include US, Canada, Mexico, Denmark, Ireland, W. Germany, Italy, Norway, France, Sweden, Japan, Australia, Switzerland.

THE DOLLAR SPOT AND FORWARD

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OTHER CURRENCIES

Table with columns: May 14, \$, £, S. Rows include Argentina, Australia, Brazil, Canada, Chile, Colombia, Hong Kong, India, Israel, Kuwait, Luxembourg, Malaysia, New Zealand, Saudi Arabia, Singapore, South Africa, U.A.E., Yugoslavia.

CURRENCY MOVEMENTS

Table with columns: May 14, Bank of England, Morgan Guaranty, Index. Rows include Sterling, US dollar, Canadian dollar, Australian dollar, New Zealand dollar, Hong Kong dollar, Indian rupee, Israeli sheqel, Kuwaiti dinar, Luxembourg franc, Malaysian ringgit, New Zealand dollar, Saudi Arabian riyal, Singapore dollar, South African rand, U.A.E. dirham, Yugoslav dinar.

CURRENCY RATES

Table with columns: May 14, Bank rate, Special drawing rights, European unit. Rows include Sterling, US dollar, Canadian dollar, Australian dollar, New Zealand dollar, Hong Kong dollar, Indian rupee, Israeli sheqel, Kuwaiti dinar, Luxembourg franc, Malaysian ringgit, New Zealand dollar, Saudi Arabian riyal, Singapore dollar, South African rand, U.A.E. dirham, Yugoslav dinar.

EXCHANGE CROSS RATES

Table with columns: May 14, Pound Sterling, U.S. Dollar, Deutsche Mark, Japanese Yen, French Franc, Swiss Franc, Dutch Guilder, Italian Lira, Canadian Dollar, Singapore Dollar, Hong Kong Dollar, Indian Rupee, Israeli Sheqel, Kuwaiti Dinar, Luxembourg Franc, Malaysian Ringgit, New Zealand Dollar, Saudi Arabian Riyal, Singapore Dollar, South African Rand, U.A.E. Dirham, Yugoslav Dinar.

EURO-CURRENCY INTEREST RATES

Table with columns: May 14, Sterling, U.S. Dollar, Canadian Dollar, Dutch Guilder, Swiss Franc, French Franc, Italian Lira, Belgian Franc, Yen, Danish Kroner. Rows include Short term, 7 days notice, 14 days notice, 30 days notice, 60 days notice, 90 days notice, 120 days notice, 180 days notice, 240 days notice, 360 days notice, 1 year, 2 years, 3 years, 4 years, 5 years.

MONEY MARKETS

Table with columns: May 14, London, Frankfurt, Zurich, Amsterdam, Tokyo, Milan, Brussels, Dublin. Rows include Overnight, One month, Three months, Six months, One year, Two years, Three years, Four years, Five years.

London rates easier

Interest rates had a slightly easier tone to the London money market yesterday, but discount houses remained nervous of another rise in clearing bank base rates in the near future.

DISCOUNT HOUSES DEPOSIT AND BILL RATES

Table with columns: May 14, Sterling, U.S. Dollar, Canadian Dollar, Dutch Guilder, Swiss Franc, French Franc, Italian Lira, Belgian Franc, Yen, Danish Kroner. Rows include Overnight, One month, Three months, Six months, One year, Two years, Three years, Four years, Five years.

MONEY RATES

Table with columns: May 14, Frankfurt, Paris, Zurich, Amsterdam, Tokyo, Milan, Brussels, Dublin. Rows include Overnight, One month, Three months, Six months, One year, Two years, Three years, Four years, Five years.

FT LONDON INTERBANK FIXING

Table with columns: LONDON INTERBANK FIXING, 11.00 a.m. May 14, bid 11 7/8, offer 12, bid 12 1/4, offer 12 3/8.

MONEY RATES

Table with columns: May 14, Frankfurt, Paris, Zurich, Amsterdam, Tokyo, Milan, Brussels, Dublin. Rows include Overnight, One month, Three months, Six months, One year, Two years, Three years, Four years, Five years.

MONEY RATES

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Table with columns: LONDON INTERBANK FIXING, 11.00 a.m. May 14, bid 11 7/8, offer 12, bid 12 1/4, offer 12 3/8.

MONEY RATES

Table with columns: May 14, Frankfurt, Paris, Zurich, Amsterdam, Tokyo, Milan, Brussels, Dublin. Rows include Overnight, One month, Three months, Six months, One year, Two years, Three years, Four years, Five years.

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WORLD VALUE OF THE POUND

The table below gives the latest available rate of exchange of the pound against various currencies on May 14, 1984. In some cases rates are based on the London interbank market for buying and selling rates.

Table with columns: COUNTRY, CURRENCY, VALUE OF £ STERLING, CURRENCY, VALUE OF £ STERLING. Rows include Afghanistan, Albania, Algeria, Andorra, Angola, Argentina, Australia, Austria, Bahamas, Bahrain, Bangladesh, Barbados, Belgium, Belize, Bermuda, Bhutan, Bolivia, Botswana, Brazil, Brunei, Bulgaria, Burma, Cambodia, Cameroon, Canada, Cayman Islands, Ceylon, Channel Islands, Chile, China, Colombia, Comoros, Congo, Costa Rica, Cuba, Cyprus, Czechoslovakia, Denmark, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, Equatorial Guinea, Ethiopia, Falkland Islands, Faroe Islands, Finland, France, French Guiana, French Polynesia, French S. Africa, Gabon, Gambia, Ghana, Gibraltar, Germany, Greece, Grenada, Guadeloupe, Guam, Guatemala, Guinea, Guyana, Haiti, Honduras, Hungary, Iceland, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kampuchea, Kenya, Korea, Kuwait, Laos, Lebanon, Lesotho, Liberia, Libya, Luxembourg, Macao, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Mauritania, Mauritius, Mexico, Monaco, Mongolia, Morocco, Mozambique, Myanmar, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Pitcairn Islands, Poland, Portugal, Puerto Rico, Qatar, Rwanda, Romania, Saudi Arabia, Senegal, Sierra Leone, Singapore, Slovakia, South Africa, South Korea, Spain, Sri Lanka, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syria, Taiwan, Thailand, Timor, Trinidad, Tunisia, Turkey, Turkmenistan, Uganda, United Kingdom, United States, Uruguay, Venezuela, Vietnam, Virgin Islands, Zambia, Zimbabwe.

\* Rate is the transfer market (controlled). † How one official rate. (U) Unified rate. Applicable on all transactions except countries having a bilateral agreement with Egypt and who are not members of IMF. (H) Based on gross rates against Russian rouble. (1) Essential goods. (2) Preferential rate for priority imports such as foodstuffs. (3) Non-essential imports and private sector equipment. (4) Preferential rate for public sector debt and essential imports. (5) Preferential rate for foreign trade. (6) Remittance of money abroad and foreign travel. (7) Parallel rate. (8) Rate for remittances of foreign currency by Egyptian working abroad. (9) Banknote rate.

INTERNATIONAL CAPITAL MARKETS

Moët-Hennessy

At its meeting of 25 April 1984, the Board of Directors of Moët-Hennessy S.A. approved its financial statements for the year ended 31 December 1983. Net income for the year came to 101,499,000 francs.

It is planned to propose to the Annual General Meeting of stockholders, to be held on 22 June 1984, to declare a dividend of 20 francs per share. After inclusion of prepaid tax (tax credit of 10 francs) this will represent a global income of 30 francs, up 11.1% on the previous year.

An interim dividend of 8 francs having already been paid on 6 February 1984, a further dividend of 12 francs (plus tax credit of 6 francs) will be made payable at the beginning of July.

CONSOLIDATED RESULTS OF THE MOËT-HENNESSY GROUP (francs million)

Table with 3 columns: 1983, 1982, % change. Rows include Net sales, Operating profit, Net income, Cash flow.

Operating results, though showing a marked improvement on the previous year, were nevertheless affected by the consequences of years of shortages in the Champagne region, necessitating restrictions on shipments and a material rise in production costs due to high grape prices in the poor harvest years.

The volume of shipments increased 6% in 1983. The Group also incurred the costs of reorganising Armstrong Nurseries in the USA during the past year.

CHAMPAGNE AND WINES This division reported sales of 2,639 million francs in 1983, against 2,176 million in 1982, with an operating profit of 426 million francs and net income of 200 million francs.

COGNAC AND SPIRITS Cognac division's sales totalled 1,588 million francs, against 1,220 million francs in 1982. Operating profit and net income came to 308 million francs and 156 million francs respectively.

PERFUMES AND BEAUTY PRODUCTS This division achieved further substantial sales growth of 18.7% to 1,413 million francs.

The division reported an operating profit of 185 million francs and net income of 95 million francs in 1983, against 145 million francs and 75 million francs in 1982.

OTHER LINES OF BUSINESS Armstrong Nurseries reported sales of 100 million francs, less than for the previous year. It was not consolidated in the financial statements of Moët-Hennessy.

OUTLOOK Provisional consolidated sales figures for the first quarter, on 31 March 1984, are up 29% with all divisions contributing to the increase.

Sidercúrgica Lázaro Cárdenas - Las Truchas, S.A. U.S.\$65,000,000 Floating Rate Notes due 1989. In accordance with the provisions of the above Notes, notice is hereby given that for the six months from 14th May 1984 to 14th November 1984 the Notes will carry an interest rate of 12 3/4% per annum.

Ambitious German new-issue calendar

By Peter Montagnon, Euromarkets Correspondent, in London

LEADING West German banks agreed on a heavy calendar of DM 1.1bo worth of new bond issues and private placements by foreigners, to be launched between now and the end of the first week in June.

The calendar, which was set at yesterday's meeting of the German Capital Markets sub-committee, came as a surprise to a market which was depressed by the rising trend of U.S. interest rates. Several bankers said coupons on foreign issues in the German market would have to rise if the DM 1.1bo was to be absorbed.

West LB is to begin the new calendar with a DM 150m private placement for the World Bank on Thursday. Bankers said the terms of this issue and its progress through the market would offer a good clue as to how the rest of the calendar would be absorbed.

Other main bond markets were also depressed by the gloomy outlook on Wall Street. Only one floating rate issue was launched yesterday in the dollar sector. One con-

D-MARK NEW ISSUES CALENDAR

Table with columns: Date, Borrower, Amount DM(m), Lead Manager. Rows include World Bank, Council of Europe, South Africa Post Office, etc.

Next Meeting June 8 \*Private Placement

placements in relatively small amounts. There has been little actual selling pressure on the D-Mark foreign bond market in recent days but foreign investors, on whom this sector of the market relies, have all but stopped their purchases amid fears that the weakness of the D-Mark may force the Bundesbank to push up interest rates around the end of the month.

Domestic investors show little interest in foreign issues, which at the moment yield up to a full percentage point less than German government bonds. Foreign issues fell by up to 1/2 point in last trading yesterday.

Other main bond markets were also depressed by the gloomy outlook on Wall Street. Only one floating rate issue was launched yesterday in the dollar sector. One con-

tinued from page 36

Table with columns: Stock, Sales (Mln), High, Low, Last, Chng. Rows include Siemens, TSCA, etc.

FINANCIAL TIMES INTERNATIONAL BOND SERVICE

The list shows the 200 latest international bond issues for which an adequate secondary market exists. The following are closing prices for May 14.

Large table with columns: Issuer, Amount, Maturity, Yield, etc. Rows include U.S. GOVERNMENT, STRAIGHTS, etc.

Unilever results

The Directors of Unilever announce the results for the first quarter of 1984

Table with columns: 1984, 1983, Increase/(Decrease)%. Rows include Turnover, Operating Profit, Profit before taxation, Profit attributable to ordinary capital.

Exchange Rates. The results for the quarter and the comparative figures for 1983 have been translated at comparable rates of exchange. These are based on £1=Fl.4.44=U.S. \$1.45, which were the closing rates of 1983.

Changes in Presentation In the Reports and Accounts for 1983, which were published on 24th April, 1984, a number of changes in presentation were made as a result of the United Kingdom Companies Act 1981 and in anticipation of the revised Civil Code, Book 2, in the Netherlands which comes into effect for the 1984 accounts.

United Kingdom 1984 Budget Proposals We have not yet taken account of the consequences of the proposals for changes in the rate of Corporation Tax contained in the United Kingdom 1984 Finance Bill.

Results In the first quarter of 1984 sales value was 11% higher than in the corresponding quarter of 1983. Operating profit improved by 27%.

Part of everyday life, in 75 countries.

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